Humanism and Logic

COURSE CODE: B21UC01SC

SKILL ENHANCEMENT COMPULSORY COURSE FOR ALL UG PROGRAMMES

SELF LEARNING MATERIAL

SREENARAYANAGURU
OPEN UNIVERSITY

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The State University for Education, Training and Research in Blended Format, Kerala

SREENARAYANAGURU OPEN UNIVERSITY

Vision

To increase access of potential learners of all categories to higher education, research and training, and ensure equity through delivery of high quality processes and outcomes fostering inclusive educational empowerment for social advancement.

Missionv

To be benchmarked as a model for conservation and dissemination of knowledge and skill on blended and virtual mode in education, training and research for normal, continuing, and adult learners.

Pathway

Access and Quality define Equity.

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Semester - III

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MESSAGE FROM VICE CHANCELLOR

Dear

I greet all of you with deep delight and great excitement. I welcome you to the Sreenarayanaguru Open University.

Sreenarayanaguru Open University was established in September 2020 as a state initiative for fostering higher education in open and distance mode. We shaped our dreams through a pathway defined by a dictum 'access and quality define equity'. It provides all reasons to us for the celebration of quality in the process of education. I am overwhelmed to let you know that we have resolved not to become ourselves a reason or cause a reason for the dissemination of inferior education. It sets the pace as well as the destination. The name of the University centres around the aura of Sreenarayanaguru, the great renaissance thinker of modern India. His name is a reminder for us to ensure quality in the delivery of all academic endeavours.

Sreenarayanaguru Open University rests on the practical framework of the popularly known "blended format". Learner on distance mode obviously has limitations in getting exposed to the full potential of classroom learning experience. Our pedagogical basket has three entities viz Self Learning Material, Classroom Counselling and Virtual modes. This combination is expected to provide high voltage in learning as well as teaching experiences. Care has been taken to ensure quality endeavours across all the entities.

Being committed to the principles of value-based education as a sign of its priority in fostering humanist perspective across the borders, the University has provided a mandatory course on humanism for the undergraduate learners. It is a University core course and its successful completion is a requirement for the award of the degree. The University crafted the content of the syllabus focusing on the inter connectedness rather than the degree of divergence. The rationale for this description lies in the University's approach for social harmony. The course does not claim any ambitious outcomes except that the diversity matters and its symbiotic existence is the logical deduction. The second part of the course is on the basics of logic which are critical factors for the meaningful engagement on dialogue. Accidentally, Humanism and Logic portray a thematic bond between the two; Logic is the requirement to reach Humanism and Humanism cannot foster without Logic. The University has no option other than celebrating both. This course is the beginning of an ambitious dream for sustainable peace. .

Feel free to write to us about anything that you feel relevant regarding the academic programme.

Wish you the best.

Regards,
Dr. P.M. Mubarak Pasha

01.02.2024

Contents

Humanism

UNIT

Foundational Terms

Learning Outcomes

Upon completion of the unit the learner will be able to :

- understand the concepts of Sradha, Agape,kenosis,karuna, rahma, Insaniyya, Anukampa, Ubuntu and Ahimsa in different traditions.
- discuss the European ideas of equality and emancipation
- appreciate Dhammapada, Basheer's short story and Narayanaguru's poems based on the concepts and values learned.
- develop a critical understanding of different ecological perspectives (Gandhi, Thoreau and deep ecology)
- express the values of compassion, equality and environmental sensitivity in their living and working contexts
- ealuate and critically analyze the ongoing public debates drawing on the above conceptual insights

Prerequisites

How often do you feel disturbed whenever someone is in trouble or danger or struck by disasters, even though you do not have any personal relationship, community bondage, proximity or any other selfish motives? Why do you sympathize or empathize with them, pray for their rescue, and contribute such relief endeavours?

Let's look at some interesting stories.

Jaisal K.P. is a fisherman and a resident of Chappadi beach at Tanur, Kerala. During the 2018 August floods in Kerala, he along with his folks rescued many victims of flood. One unparalleled act by Jaisal during this rescue operation stood out - he bent down in knee-deep water and allowed three women to step on his back to onboard the rescue boat. The global community and international media including the New York Times hailed this act of compassion.

The earthquake in Morocco has completely disrupted normal life, thousands have lost their lives, and thousands have evacuated. But they were not left alone as many countries across the globe have come forward to help them.

A blogger from Kerala posted a stop payment message on Facebook in March, 2023 asking the public to arrest the flow of remittance for the treatment of a poor boy as it has crossed the required funds.

There are millions of similar actions across the globe. Why do we do that? Who has taught us the lessons of this interdependence? Why do we get disturbed when we come to know there is an injustice happening around us although we may not stay in direct connection with it?

As humans, we have values, we have morals, we have priorities, and we have a feeling of oneness cutting across the boundaries. This feeling is called humanism, and the values, lessons and perceptions that contribute are the building blocks of this feeling.

This unit covers different views and ideas about human values within the basic framework of their respective ideologies.

Key Words

Sraddha, Arul, Kenosis, Insaniyya, Rahma, Anukampa, Ubuntu

1.1.1 Sraddha/Care - Katha Upanishad

Most of the knowledge that a person achieves in his daily life comes indirectly from a teacher or other sources such as books, texts, etc. Only few pieces knowledge are acquired directly by means of incessant observation and scrutiny with the help of evidence. In all the other instances a person/student will have to follow a learned person/teacher who has more knowledge and authenticity in those particular topics. At the incipient stage of learning a student cannot have all the data for the complete understanding of a particular subject. Because these data can be overwhelming and confusing. At the primary stage of learning the student should show complete trust and faith in the words of those trustworthy persons (apta/preceptor) to make their academic pursuit easier and more feasible. This trust

and attention is generally called sraddha in Indian philosophy.

In some other instances, this sraddha can also be denominated as a care towards other beings. In Kathopanishad, a king named Vajasrava performed a sacrifice in which all his possessions are to be given away in order to consummate the full advantage of that sacrifice. The king was giving away his many cows, which are weak, impotent and unable to lactate to the brahmins. Having seen all this irresponsible deed, his son, Nachiketa, asked him that to whom the king is going to give him? The question of Nachiketa is a response against the apathetic approach of the king towards the people he is trying to bestow with gifts.. Moreover, this is his protest against abandoning the cattle which need special care and attention.

The king answered that he is going to give Nachiketa to Yama, the god of death. Hearing this Nachiketa went to the abode of Yama and had discussions about mundane and metaphysical problems. The questions of Nachiketa constitute the purport of the Kathopanishad. In Kathopanishad Nachiketa is depicted as a curious and investigative child. His investigations are related to the agonies and troubles of human life. The god of death himself later praises Nachiketa for being so investigative in matters related to the tribulations of human beings. The god also aspire that the people like Nachiketa who has Sraddha are inevitable in this world. This Sraddha of Nachiketa is a mark of humanity that we can find in Kathopanishad. Sraddha motivates humans to care for each other and bravely raise questions if the justice is betrayed anywhere.

Dharmapada/Dhammapada

Dharmapada/Dhammapada is a book which consists of the teachings of Buddha to his followers. This book is included in the Khuddakanikaya of *Suttapitaka.* This text consists of twenty-six chapters divided on the basis of topics, and contains four hundred and twenty- three gadhas/ slokas. The name Dhammapada means the 'path to the virtue or doctrine of Buddha'. Dhamma, the pali equivalent to Sanskrit 'Dharma', stands for the teachings of Buddha. The term 'pada' can be roughly translated as 'way' or 'path'. It is the most eminent book in Buddhist literature, whose ethical and moral vision remain relevant to the conception of a peaceful society.

The chapters in the Dhammapada discuss the Pairs of choices, Heedfulness (Jagrata), Mind, Flowers, Fools, Wisemen, Arhat, The thousands, Evil, Punishment, Old age, Self, World, Buddha, Joy, Affection, Anger, Impurity, Justice, Path, Miscellaneous, Woe, Elephant, Craving, Ascetic and the Holy man respectively.

The verses in the text are not attributed to any particular context but stand independently exhorting the various means necessary for leading a peaceful and virtuous life. All the teachings aim at providing insights for human beings to live a peaceful, calm and moral life which would enable them to play a rightful role in society.

The text gives hints about the outcome of both virtuous and evil choices. The virtuous and positive thoughts about oneself and her experiences bestow us with positive effects, enabling us to lead a more vibrant and calm life, while negative thoughts of one's past experiences will reap nothing but hatred and stress leading to self- destruction. Our choices always come in pairs viz, the right choice and wrong choice. If we make the right choices, our life will flourish spiritually

and the wrong choices will lead to the destruction of inner peace and calamities.

The heedfulness or apramada or Jagrata is the key to obtaining a higher spiritual path. The person with apramada will be very vigilant about her deeds and rightfulness and thereby bestowed with bliss, valour, fame and peace. She is unmoved by the temptations of the temporal world and impervious to the woes and rues of ordinary people.

The mind should be trained to focus on good thoughts. The conquest of mind is much greater than the conquest that subjugates thousands of men a thousand times. The mind tends to wallow in unnecessary and destructive thoughts, and one has to train it to focus on virtuous things, and discipline it to obtain a calm life. The undisciplined mind full of unpleasant memories and experiences tend to drive us away from obtaining a peaceful state.

Th uncontrolled inner drives are another obstacle in the way to spiritual life. An untrained mind is always pulled towards sensual drives. Controlling such drives, the trained mind should be directed to the right target by employing intellect and reason like arrows. The mind which lingers over virtue and rightfulness will bestow more qualities than can be bestowed by one's own parents or relatives. Those who are stranded by the temptations of the world will be wiped out as in a flood.

The fools who indulge themselves in bad deeds will face ruthless repercussions in their life and the lives of others. Such deeds should be avoided in one's life. The bad deed will result in repentance and eventually into tears so a good person should abstain from such deeds. The actions that bring joy to oneself are virtuous actions. The wrong actions may bear happiness for a short span of time but it will ripen soon produce negative results to the doer.

The chapter about the Wisemen gives expounds upon good people and good deeds. The Wisemn preaches about the right ways and their advices should be listened to with great care. A Wiseman leads a truthful life, abstains from foul language, and relinquishes all urges for money or offspring. He has an unwavering mind that is not touched by praise, insult and humiliation. The jagrata on the right aim is the only business of the Wiseman. Such a person's mind becomes a seat of solace and all his words and actions become seats of tranquility.

The chapters about the 'evil' and 'punishment' show a more humanistic approach. A person should be prompt in doing good deeds, lest evil thoughts rush into her mind and displace them. Even though wrongdoings are once committed one should be vigilant to not repeat the same. On the contrary good deeds should be repeated incessantly. The wrongdoings may give temporal joy but will soon lead one to destruction; meanwhile, the good deeds may seem to be not joyful at first but they will eventually lead one to good merits or punya. The deeds either good or bad are similar to water drops; a single drop may seem harmless or useless but they will gather slowly and will accumulate together to bear corresponding results. Evil deeds should be omitted as an unguarded wealthy merchant avoids perilous trade routes or a man avoids poison.

The wrongdoings will always generate corresponding repercussions. One should be very careful not to hurt other beings. All living beings aspire for their own happiness. If anyone hinders this happiness or kills a being then it is wrong. Such a person will definitely face the consequences of her deeds in future. So,

the care for others should be observed not only as a means to lead a good life but also as a means to avoid unnecessary repercussions that will jeopardize one's own life. The text warns that evil doers will pass through great agonies, loss of wealth, accidents, physical and mental illness, loss of friends, etc. No artificial methods will help an evil doer to redeem herself from her past if her mind is not purified. The ascetic life and different kinds of penance such as cutting one's hair, smearing dirt on the body, sleeping on the ground, etc., will not help a person unless her mind is devoid of all earthly desires.

The chapter 'World' says that good people should entertain themselves by giving away their wealth to those in need. The miser will never see the enjoyment of heaven because they shun altruism during their life on earth.

In the chapter 'Buddha' it is stated: "Avoid all evil, cultivate good, purify your mind; this sums up the teachings of the Buddha" Doing good and avoiding evil deeds are the most virtuous things in this world, which constitutes the most profound teaching of the Dhammapada. The one who inflicts pain on others and causes insult to others can never be a monk. A good person should elevate oneself from conquests because the conquests bear hatred and the defeat bears pain and sorrow. "There is no fire like lust, no sickness like hatred, no sorrow like separateness, no joy like peace. No disease is worse than greed, no suffering is worse than selfish passion." A good person should keep these teachings in mind to lead a healthy and peaceful life. One should conquer hatred with love, defeat evil with virtue, vanquish greed with charity and win falsehood with truth.

The exhortation to control oneself is a common theme that appears in most of the chapters of the text. It is the key to achieving all the virtues promised by Buddhism. The advancement in spiritual life can be attained only through restraining the mind because the mind is the entity that drags a person to all kinds of unwanted deeds. A good person has to show purity in her words, deeds and thoughts, only a rightful and focused mind can help one to attain this. Most of the portions of the text discuss the importance of controlling the mind and to focus upon the right goal of life. Such discipline helps a human being lead a peaceful and serene life and bring happiness to oneself and others.

1.1.2 Agape/ Empathetic Love

Agape is a Greek word which is most commonly used in association with the new testament. Usually, this word has two meaning.

1. God's unconditional love towards man

2. Selfless love between men

The term agape also stands for the fellowship among the followers of Jesus. In the first book of Corinthians Paul commemorate the eucharist in which Jesus gathered all his disciples and washed their feet and broke bread with them. This communion represents the confidence and love that each person bestows one another. So, the second meaning of the word agape gets a social force that keeps all the members of a society together.

St. Paul explains the meaning of Eucharist in his first letter to the Christian

community of Corinth in relation to a social problem faced by a section of people in the Corinthian Ecclesia (I Cor. 11:17-34). Some faithful had invited the attention of the apostle to it. Poor Greek widows of the community were disregarded by a rich section in the fellowship meal during the Eucharistic celebration. This disrespect was against the ideal of communion in the Eucharist. St. Paul reminded them about the insights of Jesus about love. During this exhortation he describes the context and meaning of the sacrificial love as it is established by Jesus in the Last supper. Without this filial love and sacrificial attitude, Eucharistic celebration and Christian liturgical living are impossible.

Jesus gives the command of love to his disciples in his farewell speech of Last supper. "As I have loved you, you love each other" is the command of agape (Jn. 13:34-35). St. John, the beloved disciple of Jesus calls God Love (I Jn. 4:7-8). Agape is the synonym of God in Johannine Theology. This experience of Agape in communion is elaborated as a Hymn of love by St. Paul in his Letter to the Corinthians (I Cor. 13:1-13). This hymn is a test to the faithful whether they are in true sense of love as it is described by Jesus as agape. According to St. John, those who do not dwell in agape do not inhabit in God. Jesus teaches that there is no greater love than the one who sacrifices one's life for brother/sister. In his parable of Good Samaritan, Jesus explains who this brother/sister/neighbour is. This is the one who risks their life to care the other. Agape is the answer to the question of Cain: 'Am I the custodian of my brother?'. Agape is the answer, i,e: Yes, I am.

Kenosis/ Self emptying

The term Kenosis is closely associated with the self-emptying or self-renunciation of Jesus Christ. In Christian theology Jesus is considered as the son of God but this position is renounced by Jesus in order to fulfil his destiny. Jesus was supposed to be crucified after undergoing rigorous persecution in order to fulfil the prophecy. On the verge of crucifixion Jesus renounced his divine nature and became just a tool of the father/God and surrendered himself to the will of God so that the God can salvage the lost humanity through Jesus.

This self-renouncement or self-emptying is done by Jesus Christ for the sake of others. If Jesus had maintained his glory and grandeur he could never have been crucified and redeemed the people from their ill-fate. But Jesus cared for others and made the greatest sacrifice for the upliftment of people. This is the example that every human being has to follow in order to help the society to advance.

In literature studies, kenosis refers to the feeling experienced by the reader of poems . It is the experience of the emptying of the ego- of the reader.

The doctrine of kenosis attempts to explain why the son of God chose to give up his divine attributes in order to assume human nature. Specifically, it refers to attributes of God that are thought to be incompatible with becoming human. For example, God's omnipotence , omnipresence etc. Theologians who support this doctrine urges believers to imitate Christ's self-emptying.

1.1.3 Insaniyya / Humanity

The oneness of humanity is essential for the existence and happy life of human society. That is why all scriptures and religious philosophies proclaim that human society is a society. In the Qur'an, it is said about humans as insan. Insaniyya is said for the manners that people should accept each other. Insaniyya refers to humane content. There is a chapter in the Quran called Insan.

Banu Adam meaning children of Adam, is another usage about human society in the Qur'an. The Qur'an says that all human beings are born from the first man, Adam. The Qur'an records that Allah honoured the children of Adam. The rule in Islam is to keep this sense of insaniyya in any action. Even if the clan, caste, and creed are different, we should accept the insaniyya in everyone and live together. There should be no polarisation in the name of religion or community. In the Qur'an, there is a verse, Lakum Deenukum Waliya Deen, which means "You have your religion and I have my religion". Mutual respect should be maintained not only during life but also after death. That is the message of insaniyya. For instance, while carrying the dead body of a Jew, Prophet Muhammad stood up respectfully. The comrades were surprised that they showed respect to the dead body of the enemy. Then the Prophet said: Is n't it a human body? This is the meaning of humanity or insaniyya . In the same way, the Qur'an says that it is necessary to create conditions for all people to live harmoniously and to cooperate with each other in good and not to cooperate in evil.

Rahma / Mercy

Allah is the Arabic word for God. The word Allah has no dual or plural form; it means the only God. Many attributes of God are found in the Qur'an. Names like Rahman and Rahim are important among them. The words Rahman and Rahim has the same meaning; one who has a lot of Rahma (mercy). Those words can be translated as Paramakarunikan and Karunanidhi (Most Gracious, Most Merciful). In the first chapter of the Qur'an, Al-Fatiha (The Opening), Rahman and Rahim are said to be the epithets of Allah. The rule is to say Bismi when starting the recitation of the Qur'an like when starting any good deed. Bismi can be recited as Bismillah Rahmani Rahim, meaning - In the name of God, the Most Gracious, and the Most Merciful.

God's mercy should always be remembered in daily life, during the recitation of the Qur'an and in prayers. When a Muslim prays five times during the day and night, they mentions God's mercy seventeen times in Al-Fatiha and when reciting the Qur'an. In the Qur'an, it is repeatedly said that people should be merciful. Prophet Muhammad has said, "show mercy to all on earth, and God will show mercy to you". The Qur'an says about the Prophet that he is Rahma (Surah Al Abia 21/107). In the Holy Quran, revealed as a guide for human society, the holy-text is described as Rahma (Mercy) (Quran 17/82). From all this, we can understand the importance of mercy. Our lives should be compassionate. All words, actions, and thoughts should be compassionate. Do not harm any living being. The Prophet said that a person who gave water to a thirsty dog was admitted to heaven by Allah, and a person was admitted to hell for tying up a cat and starving it. The Prophet reprimanded the person who took some of

the baby birds away from the mother bird and ordered them to be taken back to the mother bird and released. Islam teaches to treat animals, birds, and other creatures with mercy (Rahma).

The greatest mercy is to help those who suffer in life. The Prophet said that striving for the welfare of the poor and widows is more virtuous than praying and meditating in the mosque of Madinah. The bottom line is that not only spirituality and worship are virtues, but Allah loves human tears more than that. Mercy is what the merciful God teaches man. Prophet Muhammad taught to treat children with mercy. A companion who saw the Nabi kissing his child said, "I do not kiss my children." Then the Prophet said: "It is because you do not have compassion in your heart." The Qur'an says that children should pray for their aged parents like this: Oh Creator, shower mercy (Rahma) on them as they (parents) nurtured us when we were young (Quran 17/24).

1.1.4 Anukampa / Compassion— Anukambadasakam

Narayanaguru upheld a philosophy based on compassion. The ideal of care for others is one of the basic principles of humanism. We can find these concepts in his works like, Atmopadesasathakam, Jivakarunyapanchakam, Ahimsa, Sadacharam, etc. 'The deed of one for his own sake should bring joy to others' This was his motto.

"Whatever one does for one's own happiness. Should be conducive to the happiness of others as well", Atmopadesasatakam, 24.

Anukampadasakam is a best example of the announcement of these ideals in ten slokas. The first five slokas discusses anukampa or compassion. The latter five slokas discusses the compassion of great personages of different religion around the globe. He commemorates Sri Sankara, Sri Krishna, Jesus Christ, Muhammad, and few Tamil Saiva saints in this context.

The first sloka entreats the God to confer enough compassion which will help us not harm even an ant. When heart is filled with grace the life too becomes filled with blessedness. When we become devoid of *anpu* or love then problems start to emerge in our life. The *anpu* is terminated due to the darkness of ignorance. This is the sole cause of all miseries. Grace, love and compassion are one in reality. And this reality is the illuminating star of our life. The one who has arul/love is the jivi/living being. This maxim should always be remembered. Metaphorically speaking the compassion is the Kamadhenu, which bestows all desires of people and Kalpatharu, the tree which gives everything to us.

In the fourth sloka Narayanaguru brings up some ideas from Thirukkural. One who does not have love is just a foul-smelling creature with skin and bones.

In the fifth sloka he says the shadbhavavikara/six phases are found everywhere but the wisdom is not affected by these six phases. Six phases denote the different states which everything in this world undergoes.

1. Emergence
2. Existence
3. Development
4. Transformation

5. Waning

6. Destruction

Narayanaguru states that these states are not applied to wisdom. A person with *arul*/love will lead a virtuous life. The reputation of a man with *arul* will survive even after his death. So *arul* and *anukampa* should be upheld by all people.

Narayanagur reminds that Krishna who taught Gita, Sankara who wrote the commentaries have preached this compassion. Jesus Christ and Muhammad also have taught this compassion. Thirujnanasambandhar, Appar, Manikyavachakar,Sundharamurthi Nayanar who are collectively known as Nalvar also have taught this compassion.

Excerpts from
ANUKAMPADASAKAM

[This work was dictated by Guru to his disciple Gurudas (Later Swami Poornananda) while in Sivagiri about 1920.]

1

Such compassion that Even to an ant

Would brook to befall Not the least of harms, Confer on me;

O mercy-maker,

Along with the thought

That from your sacred presence

Never to go astray

2

Grace does bring about True blessedness in life. A heart empty of love Spells disasters

Of every kind. Darkness effaces love And is the root cause Of all miseries.

It could be the root-cause

Of everything (dismal) in life.

3

Grace, Love, Compassion-

All these three

Have one reality alone

For their meaning content, The star that is life's savior. "He who loves is

Who really lives"

Do repeat this sacred Nine-syllabled charm.

Karuna – Buddha

Human beings are a social species. We have evolved that way and should stay the same in order to survive in this world. So, the association between two or more human beings is indispensable. A lot of human emotions help us to build this human association. Consideration about the human feelings or kindness is the most essential and crucial in building up this association between people. Integration of human society relies on this value. Without kindness the human civilization will collapse.

Buddha, one of the greatest philosophers of India taught and disseminated this value to bring peace among people. The kindness/ *karuna* of Buddha not only pertained to the humankind but enveloped all the species that is sentient. Thus, *karuna* of Buddha put forward a great sympathy towards all the creatures. He prohibited people from killing the creatures for religious customs. Buddha was a great pragmatic social

reformer. His whole philosophy is centered on the problem of human suffering. He pondered over the miseries of human beings and wanted to put an end to it. He renounced all his princely privileges and enjoyments in order to find a remedy for the sufferings of human kind. After his long years of search for an answer to the tribulations of mankind he found out that *avidya*/ignorance is the primal cause of all sufferings. In order to put an end to this ignorance he advocated a life style which consists of eight fold path. And this path consists the following maxims:

1. Right view
2. Right resolve
3. Right speech
4. Right conduct
5. Right livelihood
6. Right effort
7. Right mindfulness
8. Right concentration

All these maxims pertain to the care of others in all respects. The right vision, right speech, right action and right livelihood give special attention to the manner in which a person is expected to live his/her life. And this lifestyle is gives much importance to the personal discipline of each person. This also provides care and respect to others who live around us. The whole philosophy of Buddha thus revolves around the central concept of *karuna*/kindness. Ahimsa, or non-violence in the word, thought and deed is the central theme of Buddhism.

The Theravada tradition and the Mahayana tradition have their own view about karuna/mercy. The Theravada tradition envisages fourfold division of meditation which are the following.

1. *Karuna* (universal pity)
2. *Maitri* (universal friendship)
3. *Mudita* (happiness in the prosperity and happiness of all)
4. *Upeksha* (indifference to any kind of preferment of oneself, his friend, enemy or a third party)

These four are called four sublime meditations or brahmavihara. The *karuna* and *maitri* are closely associated as they represent the two reciprocal sides of the coin of happiness. *Karuna* inspires us to forbid ourselves from doing any harm to others. *Maitri* motivates us to bring happiness in the life of other creatures around us. *Karuna* is the essential path that the person should take first in order to attain *maitri*. *Karuna* leads a person to *maitri*. *Karuna* is not only directed towards friends, but also towards enemies and strangers. In *karuna,* a person's own safety becomes mingled with the safety of others.

The Mahayana tradition considers the karuna and prajna as the two essential qualities that a person has to achieve in order to fulfil his/her journey to become the Bodhisattva.

1.1.5 Emancipation

One of Rousseau's most famous statements is that "Man is born free; and everywhere he is in chains". Wherever there is bondage, we could think of emancipation. We could think of those who need emancipation; proletariat, women, slaves, queer people, dalits and so on. We could also think about the nature

of emancipation as well. What exactly is meant by this concept?

The word 'emancipation' is derived from the Latin word *emancipo*, which means 'the act of liberating a child from parental authority'. In Roman law, emancipation referred to the freeing of a son or wife from the legal authority of the father of the family. Literally, it means 'to give away ownership'. Thus, conceptually it implies giving away one's authority over someone else. Through this process the person being emancipated becomes free. Legally, this term is used to indicate the freeing of someone from the control of another.

Emancipation is often thought of in conjunction with other terms like rights, reason, revolution, science, freedom, etc. Broadly, it is used to indicate efforts to achieve economic equality, social and political rights, etc. Historically, this term had undergone many changes. In the eighteenth century, it was used in relation to Enlightenment. Enlightenment was defined as a process of emancipation. In his famous article, "What is Enlightenment", Immanuel Kant defines enlightenment as "man's release from his self-incurred tutelage". He saw tutelage or immaturity as man's inability make use of his understanding without the direction from another. For Kant, immaturity's cause lies not in lack of reason but in lack of courage to use it without the direction from another. Enlightenment thus involved a process of becoming independent or autonomous. For Kant, this autonomy was based on one's use of reason.

In the nineteenth century, it was linked to the emancipation of women and workers. As mentioned above, one major concept linked to emancipation is revolution. From 1776 and 1780, the concept of revolution evolved as a concept and practice. It aimed at human emancipation. Karl Marx considered human emancipation as central in his thinking. As a process it envisaged social change instead of mere shifts in governments. It is not mere revolt. It aims at equality. Thus for Marx, revolution became emancipatory through what is made out of it, i.e; communism. He separated political emancipation from human emancipation. Human emancipation is emancipation from necessity (crude physical needs). Hannah Arendt in her work 'On Revolution', argues that change is revolutionary only if it creates something new. It will bring greater freedom and greater equality.

In political theory, the idea of emancipation has been understood as a process of establishing human rights. There are interesting debates around this term. First, we find an antagonism between liberalism and Marxism. Then we find conflicts between Enlightenment thinking and critiques of Enlightenment.

1.1.6 Ubuntu

The word 'Ubuntu' belongs to the African language group Nguni Languages such as Zulu, Xhosa and Ndebele. Etymologically it is a combination of two words: 'ntu' and 'ubu'. 'Ntu' means human. 'Ubu' is a prefix term in Nguni languages. This prefix functions like "ity" in the word human- ity (humanity). Hence the word Ubuntu primarily means 'humanity' with the combination of the sense of 'humanness' and 'humaneness'. Linguistically, this word suggests the origin of an abstract noun out of a concrete one. In African literature, this word is a part

of writings about humanism in general.

Broadly, in African philosophical literature, ubuntu illustrates the concept of human moral existence. Morality is the expression of the ethical relations between human beings and their relations with the world around. Human moral existence is thus a sign of the fundamental relational nature of human beings. As an indication of this relational human moral existence, ubuntu explains the human nature in terms of interconnectedness of human persons.

A.C. Grayling explains this specific nature of human beings in relation to the word ubuntu in the following way:

"The constellation of ideas captured by ubuntu includes kindness, goodness, generosity, friendliness, compassion, caring, humane attitudes and actions and the recognition of interdependence which confers a freely claimed entitlement and, simultaneously, a willingly accepted obligation to reciprocity. The briefest encapsulation of these humanistic values is the assertion- 'I am, because of You'". This assertion- 'I am because of you'- shows the interconnectedness of human nature. African philosophical writings generally highlight this sense of ubuntu.

N. Makhudu, African thinker and author, writes about ubuntu by emphasizing this specific sense of the word in her study "Cultivating a Climate of Co-operation through Ubuntu". According to her, harmony and co-operation and a shared world-view collectively make up ubuntu culture. In her view, in the sense of ubuntu, a person is a person only because of and in relation with other persons.

The concept of ubuntu suggests that individuality is always expressed in collective sense. As the author, Erasmus D. Prinsloo points out in his article "Ubuntu Culture and Participatory Management", there is no dualism in ubuntu because human beings acquire their rationality and morality from their community life. The concept of ubuntu thus highlights this communitarian aspect of human nature and critically approaches the notion of individual human being prevalent in the humanistic traditions of the West in general. In ubuntu culture, human being is defined dynamically and in relational terms in contrast to the static definition of a person as one who possesses human nature and individual reasoning capability. According to this view, humanism in general till today was individualistic and in the light of ubuntu it is communitarian.

Recap

- Knowledge is acquired from books, teachers and observation
- Evidences are inevitable
- All knowledge may not be based on evidences, trust and faith are inevitable
- Shraddha means trust and attention in Indian philosophy
- The story of Vajsrava and his son is described in Kathopanishad to convey the meaning of Shraddha and rational thinking
- Dharmapada consists of teaching of Buddha to his followers It means path to the virtue
- The book provides lesson for a peaceful life for his followers
- Buddha asked his followers to lead a responsible and moral life for eradication of sorrows
- The book gives two choices of virtuous and evil
- Virtuous thoughts will lead to vibrant and calm life
- Evil thoughts will reap hatred and stress and destroy the personality
- Choices always come in pairs, the right and wrong choices
- Wrong choices will satisfy our sensual needs but will not deliver our spiritual needs
- Right choice will flourish our life and ensure inner peace
- Apramada or Jagrata ensures higher spiritual path
- Mind must be trained to focus on good thoughts
- Undisciplined mind will suffocate man and destroy his peace
- Uncontrolled inner drives are obstacles of spiritual life
- Fools will go after bad deeds
- The book has a chapter on Wisemen describing the details of good actions

- A Wisemen leads a truthful life
- Chapter on “Evil and Punishment” has strong humanistic approach
- The chapter, “World” describes charity
- When you inflict pain on others, you become a man with evil deeds and will have miserable life at the end
- No suffering is worse than selfish passion
- A good person has to show purity in his words, deeds and thoughts
- Agape is a Greek word that means God’s unconditional love or selfless love between men
- Kenosis is self-emptying
- Jesus Christ was crucified
- He renounced his divine nature on the verge of crucifixion
- He cared for others and their upliftment
- It is self-emptying
- Prophet Adam is the father of mankind
- Insaan - Humanity
- Respect and love for all
- God in Islam - Allah
- The last prophet - Prophet Mohammad
- Major attributes of Allah - Rahman and Rahim
- Rahman and Rahim - Mercy
- Mercy on those who are suffering
- Love for all and care for the aged parents
- Sreenarayanguru upheld philosophy of compassion
- Deed of one for his own sake should bring joy to others - his motto

- Anukampadasakam has ten slokas
- The first five slokas - Anukampa or compassion
- Last five slokas - Religious leaders across the globe
- Anpu is terminated due to the ignorance
- Shadbhavavikara are Emergence, Existence, Development, Transformation, Waning and Destruction.
- Arul/Love - virtuous life
- Arul and Anukampa - core qualities
- Buddha talked about sufferings of human beings
- Kindness/Karuna is the critical aspect
- He advocated eight fold path (Ashtangamarga)
- Ahimsa is the pathway for peace
- Theravada tradition and Mahayana tradition are two branches of Buddhism
- Brahmavihara - four fold divisions of meditation
- Karuna forbid us from doing any harm
- Karuna ensures human love
- Emancipation is the act of liberation of human from authorities
- Rousseau discussed emancipation
- Immanuel Kant - “Man’s release from his self-incurred tutelage”
- Autonomy - independence
- Karl Marx - Emancipation from exploitation - revolution
- Ubuntu is an African word meaning humanity
- Illustrates the concept of human moral existence
- I am because of you
- Cultivate a climate of cooperation

- All individuals stay connected with each other for social and individual existence
- Humanism is not individualistic but communitarial

Objective Questions

1. Why do we follow learned persons to understand the deeper meaning of knowledge?
2. What is called Shraddha in Indian philosophy?
3. What is the alternate usage of Shraddha?
4. What does the story of Vajsrava convey to the posterity as a lesson of the ancient civilization?
5. Why did the God of Death praise Nachiketa?
6. What does Shraddha mean in the context of the story of Nachiketa?
7. What enabled Nachiketa to question injustice of his father?
8. What is *Dharmapada*?
9. What does Dharmapada means?
10. What is the content of *Dharmapada*?
11. What is the major call of Buddha?
12. What is the major choice described in the book?
13. How does virteous thought help human beings?
14. What is the impact of evil thoughts?
15. How does the choices come in our daily life?
16. What is Apramada?

17. What is the general feature of a person with Apramada?

18. What is the purpose of training the mind?

19. What is the impact of undisciplined mind?

20. What is the impact of uncontrolled inner drives?

21. Where do the fools indulge themselves?

22. Which is the chapter in the *Dharmapada* describes the details of good people and good deeds?

23. What is the major trait of a Wisemen?

24. What do the chapters on "Evil" and "Punishment" project?

25. Which chapter speaks about the charity in the book?

26. What is the disqualification for a monk?

27. What is the message of *Dharmapada*?

28. What is the meaning of Agape?

29. What is the meaning of Kenosis?

30. Why did Jesus Christ renounce his divine nature on the verge of crucifixion?

31. Why did Jesus Christ surrender himself to the will of God?

32. Why did Jesus Christ perform self-renouncement?

33. What is the co-teaching of Islam?

34. What is Insaan in Islam?

35. What is Banu Adam?

36. Who is the father of mankind?

37. Who is the God in the Islamic religion?

38. Which are the major attributes of Allah?

39. How many times a Muslim prays?

40. Which is the critical component in the teachings of Islam?

41. Which is the opening chapter of the Holy Qur'an?

42. Who said "show mercy to all on earth, and God will show mercy to you"?

43. Which is the best method to be merciful?

44. Why did Prophet Mohammad stand up respectfully while a funeral procession of a Jew passed by ?

45. Which is the text that describes the philosophy and teachings of Sreenarayanaguru in a comprehensive format?

46. How many slokas are included in the *Anukampadasakam*?

47. What is the thread of the first five slokas?

48. What do the last five slokas discuss?

49. Who are these religious leaders?

50. What is the soul cause of all miseries in the work of Sreenarayanaguru?

51. What is the essence of the teachings of Sreenarayanaguru?

52. What is Shadbhavavikara?

53. What is held above the six phases?

54. Who lead virtuous life as per the philosophy of Sreenarayanaguru?

55. What are the basic qualities that Guru upheld as the methods for peaceand happiness?

56. What does "Karuna" mean to Buddha?

57. What is the central theme of the philosophy of Buddha?

58. Who propounded eight fold path (Ashtangamarga)?

59. What is the main thread of Buddha's philosophy?

60. How many versions of Buddhist philosophy are popular in India?

61. What is Brahmavihara?

62. What are the four folds of Theravada tradition?

63. “Man is born free; and everywhere he is in chains” who is the author of this quote?

64. How does Immanuel Kant define Enlightment?

65. What is the philosophical base propounded by Immanuel Kant for “emancipation”?

66. How did Karl Marx consider emancipation?

67. What does the word Ubuntu mean?

68. What does Ubuntu illustrate?

69. What does the assertion - “I am because of you” mean?

70. What is the essence of Ubuntu?

71. How does Ubuntu consider humanism?

Answers

1. The limitation of the method of direct observation
2. Trust and attention
3. Care toward other beings
4. Concern for human being and sick cattles
5. His Shraddha for humanity
6. Care for humanity and concern for justice
7. Rational thinking
8. A book consists of Buddha’s teachings
9. Path to the virtue

10. Lessons for leading a peaceful life

11. To lead a responsible and moral life for elimination of sorrow

12. Choice between virtuous and evil deeds

13. It will enable him to lead vibrant and calm life

14. It will reap hatred and stress and destroy the personality

15. Choices will come in pairs, of right and wrong

16. A higher spiritual path

17. He will be very vigilant about his actions

18. Focus on good thoughts

19. It will suffocate him and destroy peace

20. Obstacle to spiritual life

21. Bad deeds

22. Wisemen

23. He will lead a truthful life

24. A humanistic approach

25. World

26. Inflicting pain on others

27. Lead a peaceful life by doing good deeds

28. God's unconditional love towards men, or selfless love between men

29. Self-emptying of Jesus Christ

30. To become a tool of the God

31. The God can salvage the lost humanity

32. For the sake of others and for the upliftment of other fellowmen

33. Oneness of mankind and God

34. Humanity

35. Children of Adam

36. Prophet Adam

37. Allah

38. Rahman and Rahim (mercy)

39. Five

40. Rahma (mercy)

41. Al Fatiha (the opening)

42. Prophet Mohammad

43. Help those who suffer in life

44. Because of the respect for a human corpse

45. Anukampadasakam.

46. Ten

47. Anukampa or compassion

48. Compassion of great religious leaders across the globe

49. Sreesankara, Sreekrishna, Jesus Christ, Prophet Mohammad and few other Tamil Saiva saints

50. Termination of Anpu due to ignorance

51. Humanism

52. Six phases that everything undergoes

53. Wisdom

54. A person with Arul (love)

55. Arul and Anukampa

56. Sympathy towards all

57. Problem of human suffering

58. Buddha

59. Ahimsa or non-violence

60. Two (Theravada tradition and Mahayana tradition)

61. Four fold division of meditation as propounded in the Theravada tradition

62. Karuna, Mythri, Mudita, Upeksha

63. Rousseau

64. “Man’s release from his self-incurred tutelage”

65. Being independent or autonomous

66. Liberation from exploitation

67. Humanity

68. The concept of human moral existence

69. Interconnectedness of human nature

70. A person stays connected with others through out

71. Humanism is community based not individualistic

Assignments

1. Explain the concept of Karuna in Buddhism with examples.
2. Discuss the idea of humanism expressed in Basheer’s ‘Oru Manushyan’.
3. Explain the concept of ubuntu giving suitable examples.
4. Write a note on Kenosis in Christianity.
5. Explain Narayanaguru’s views on caste discrimination.

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UNIT 2

Concepts

Learning Outcomes

Upon completion of the unit the learner will be able to :

- explain the concept of Ahimsa or non-violence in different traditions.
- discuss the ideas of equality and humanism expressed in Basheer's short story.
- understand Narayanaguru's views on caste and species.
- explain Gandhi's perspective on environment and humanism.
- differentiate between deep ecology and shallow ecology movements.

Prerequisites

Imagine a world where all people are treated with kindness and respect, where your gender, social status, or beliefs don't determine your worth. where humans live in harmony with nature instead of trying to conquer it. This ideal world is what humanists strive for. Humanism puts humanity first. It says every single human, no matter who they are, deserves to be valued. Hurting others, whether physically or mentally, goes against humanist principles. We're all part of the same human family. Humanists also call for equality. Prejudice and discrimination have no place in society. Everyone should have the same opportunities in life. Background and social standing shouldn't limit anyone's potential.

In addition, humanists believe we must care for the Earth. The natural world has worth beyond what it provides humans. All living things, from the smallest insect

to the largest whale, deserve protection. Improving life for one species shouldn't come at the cost of others. We must find ways to sustain both human communities and ecosystems. At its core, humanism is about spreading compassion. It reminds us that love, not hate, leads to progress. With open minds and hearts, we can build a society that benefits all. Humanism provides an uplifting vision of what humanity could become.

Key Words

Ahimsa, Equality, *Manushyan*, Caste, Environment, Deep Ecology, Shallow Ecology

1.2.1 Ahimsa/ Nonviolence - in different traditions

Different religions have advocated the non-violence among its followers in order to maintain the integration of the society. Human beings are social animals. The association among them are the integral part which makes the survival of our species possible. In order to make the association possible non-violence among people has to be improved and the helping mentality among them should be increased. So, enhancement of non- violence of all kinds is inevitable in every society. Indian philosophical traditions like Buddhism, Jainism, different traditions in Hinduism etc and other popular religions like Christianity and Islam, have advocated non-violence. Let us take a close look at Jainism.

Non-violence in Jainism

Jainism comes from a long tradition of the Thirthankaras who were the teachers and guides of the people for long years. The Jainism had twenty four such thirtankaras.

Rishabhadeva was the first in this line and Vardhamanamahavira was the last and twenty fourth Thirthankara. The most prominent feature of this religion was the importance it gave to the non-violence. They were very stringent in observing non-violence towards all the living creatures.

They went even to an extent to cover their own mouth with a net like cloth in order to avoid small creatures accidently being inhaled through nose and trapped therein. They even carried a peacock feather with them always to sweep the way that they tread to remove all the tiny creatures like ants from being trampled under their feet. They avoided dinner after lighting a lamp in the house with a consideration that small flies surrounding the lamp may fall into the food and get eaten.

These factors show how dedicated were the Jains to practice non-violence with whole heart and utmost sincerity. This shows their inclination towards the ideal that they uphold and preach.

1.2.2 Equality

Equality is a concept closely related to justice and democracy. There are many definitions of this political concept among thinkers and political activists. Equality denotes equivalance relationship between different things and phenomena. That relationship is qualitative in nature. It points to the correspondence between a group of different objects, persons and processes which have the same qualities at least in one respect. Equality is different from identity. Equality does not imply sameness. That is, it does not imply similarity in all respects.

Equality could be thought of in descriptive and prescriptive senses. Example for descriptive use is: 'Two people share the same weight'. An example for its prescriptive use is: 'People should be equal before the law'

It is quite obvious that nothing in this world is equal in all respects. Equality as a notion does not imply that actually everybody is equal. It is a moral ideal. In a prescriptive sense thinkers demand us to believe that everybody is equal. If we believe so, our behaviour will be more democratic and just.

Thinkers like John Rawls, Nozick and Amartya Sen argue for distributive justice. That is, about distributing resources equally. In his famous book A Theory of Justice, John Rawls tries to solve the tension between liberty and equality . He offers the members of democratic societies a way of understanding themselves as free and equal citizens in a manner which is fair to all. He argues that each person has an equal claim to equal basic rights and liberties. Rawls proposed a hypothetical scenario: a group of people who are ignorant of their and others' social, economic, physical, or mental factors come together to make laws for themselves. Under such a circumstance, everyone will be virtually equal. Rule-making will not be influenced by the self-centred desires of particular sections of society. There will be no hierarchy in the bargaining power. There will be equal sharing of burdens and benefits among all.

So, the theory of justice proposed by Rawls advocates for a system of rule-making that ignores the social, economic, physical, or mental factors that differentiate people in society. Accordingly the basic institutions of any society should be constructed in order to ensure the fair distribution of social primary goods to everyone. The social primary goods are those goods that individuals prefer to have more of rather than less. It includes rights, liberties, opportunities, income, and wealth.

According to Amarya Sen, the ability and means to choose our life course should be distributed as equally as possible across society. That is, there should be an equal chance for autonomy and empowerment.

Thinkers like Ranciere argue for a more active notion of equality. Ranciere stands for practicing equality than enjoying equality. His theory is based on the assumption that everyone is the equal to everyone else. Democratic politics occurs when people who are not treated as equals decide to demonstrate their equality with everyone else.

Communitarian thinkers like Charles Taylor argued that individualism is not enough to ensure equality. It is important to recognise the social nature of identities. According to Taylor, a person's sense of self is not something that can be achieved

alone. It depends on recognition from others.

Equality as a notion is closely related to movements and struggles. It holds close connections with rights. There have been multiple movements which demanded equality including women's movement, LGBTQI movements, anti caste movements etc. They asked for equal rights to land and property, sexual and reproductive health etc. They demanded equal access to power, education and professions.

Dr. B.R Ambedkar is a political philosopher who took equality as a central notion in his philosophy. In Annihilation of Caste, Ambedkar defines equality as the governing principle of democracy. A man's power is dependent upon (1) physical heredity, (2) social inheritance and finally, (3) on his own efforts. Ambedkar admits that men are undoubtedly unequal in all these respects. He asks the crucial question whether we should treat people as unequal because they are unequal. According to him, men should not be treated unequally in the first two respects mentioned above. That is, those individuals in whose favour there is birth, education, family name, business connections and inherited wealth should not be selected in the race. Selection under such circumstances would not be a selection of the able. It would be the selection of the privileged. Therefore, Ambedkar suggests that we should ensure that people are treated equally in those respects.

1.2.3 Basheer's short story, 'Oru Manushyan'

You have no real plans in mind. You are loitering about in far-off lands. No money in hand; you don't even know the language. You know how to speak English and Hindustani. However, very few people there get these two languages. So, you may get into trouble a lot. You may engage in many adventurous activities.

And like that, you find yourself in a pickle. A stranger comes to your rescue. Even though a lot of time has passed, you are reminded of that man in specific situations…why did he act the way he did?

Let's assume that You— the person who is remembering this—are me. What I'm beginning to talk about is one of my own experiences. I have a somewhat vague knowledge about this human folk that I'm also a part of. Among those around me are good people. There are also thieves and the utterly cruel. There are lunatics and those who carry contagious germs—one must always live in great caution; this world is mostly all evil. But we tend to forget this. We become conscious of this only after a mishap.

I'll talk about that very, very old,

amusing but trivial incident here.

A big city, about fifteen hundred to twenty-five hundred miles from here, located in a valley of a mountain range. Since the olden days, the people around there were not that known for their kindness. They are cruel. Murder, pillaging, pickpocketing; these are all daily happenings. The people there are traditionally soldiers. The rest live as money-lenders in far-off foreign lands, and as gatekeepers in large offices, banks and mills.

Money is a big deal there, too. Anything

can be done for it, anyone can be killed!

I am living in a very filthy, very small room in a filthy street there. There's a job,

from 9:30 to 11 at night, to teach English to several foreign workers. Just to write out their addresses. This learning how to write one's address, is also considered great education there.

These address-writers can be seen in Post offices. Their fee is a quarter rupee to half a rupee per address.

This address-education is for them to evade this payment and make a quick buck.

In those days, I used to wake up only by four in the evening. This is to save on some other things. Morning tea, afternoon meals.

So, I woke up at four as usual. After my daily routine, I stepped out for tea and meals. Let's assume that I was all suited up as I got out. There's a wallet in my coat pocket. Inside it is fourteen rupees. That is my whole life's earnings.

I pushed through the crowd and entered a hotel. I had full meals, and by that I mean a stomachful of chapati and meat. I also drank a cup of tea. The bill came up to three-fourth of a rupee. Remember that the time was such.

To pay the bill, I reached for my pocket…and then I began to sweat profusely; all that was in my tummy was burnt. Turns out my wallet was missing from my pocket!

I said, miserably: "I've been pick-pocketed."

It's a noisy hotel. The hotel guy let out a shrieking laughter, startling everyone in the hotel. Then, he put his hand on my breast pocket, shook me and said: "Don't you dare play this here! Put your money here and leave... or I'll poke your eyes out."

I looked at the spectators. Not even one kind face…their gaze like that of a pack of hungry wolves.

"If I say I'll poke your eyes out, I will poke your eyes out."

I said: "I will leave my coat here and go get the money.'

The hotel guy laughed again.

He asked me to remove my coat.

I removed my coat.

He asked me to take off my shirt too. I took off my shirt.

Then he asked me to remove my shoes.

I removed my shoes.

Finally, he asked me to remove my trousers.

The plan was to strip me downright naked, then prod my eyes out and throw me out.

I said: "There is nothing underneath."

Everyone laughed.

The hotel guy said, "I doubt that, there has to be something underneath."

About fifty people bellowed with a dreadful laugh, "there has to be something."

My hands are not moving. I imagined a naked man with no eyes, standing on the streets, in the midst of a milling crowd. This is how life ends. Let it end. I am... Oh, leave it. The creator of all worlds! Oh lord! I have nothing to say. Everything's good. Yes, all's well…auspicious!

I began unbuttoning my trousers, one by one. Then, I heard a deep voice. "Stop, I'll give you the money." Everyone turned towards that side.

A fair lad, six feet tall, wearing a red

turban, black blazers and white socks. Pointy mustache, blue eyes…

These blue eyes are very common here.

He went up to the hotel guy and asked: "How much did you say it was?" "About three quarters of a rupee!" He paid it all and told me:

"Wear everything back."

And I did.

"Come," he called me. I went along. Are there words to express my gratitude? I said:

"What you did was a great thing. I have never seen such a good man before."

He smiled.

"What is your name?" he asked. I told him my name and place.

I asked for that man's name. He said: "I have no name." I said:

"In that case…MERCY, so be your name.'

He didn't smile. We kept walking. We walked and walked, and ended up on a solitary bridge.

He looked around. There was no one. He said:

"Look; walk away and don't turn back.

If anyone asks whether you saw me, you have to tell them that you did not." I understood the deal now.

He emptied two-three pockets, and took out some five wallets. Five! And among them, mine too.

"Which one of these is yours?" I pointed at mine.

"Open it and see."

I opened it and took a look, all my money was safe there. I put it in my pocket.

He told me:

"Go, may God save you."

I, too, said: "May God save you… me… and everyone!"

"Oru Manushyan", an astonishing short story of Vaikkom Muhammad Basheer that emphasizes the value of humanity in a heart touching manner. The story asserts that even in places where kindness is an alien idea or even in people who lives an unworthy life, humanity can be found. Basheer is well known for introducing colloquial style in story writing and bringing laymen as main characters. He depicted the life and thoughts of prostitutes, pickpockets, mentally challenged and other socially ostracised people. His writings brought into light the fact that there is humanity in all people. Even when we think that there is no hope, there could be a glimpse of love and care. Having a vast experience with the daily affairs of the people of all social strata, he was well- accustomed with their thoughts and thus, he realized the humanitarian aspects that are kindled in every human being.

This story "A man" is also an expression of such an act which instills the love towards other human beings. This story is in first person narrative. The protaganist lives in a very nasty condition in a very remote place where his language skills are very feeble and has a small job just enough to subsist. One day, after having his lunch at the restaurant, he finds that his pocket being picked and there is no way to pay the hotel bill. The manager and other cruel people in the restaurant are about to strip him naked and poke his eyes. Suddenly, a

stranger comes to his rescue and pays his bill. Later, he understands that the very man who rescued him from the calamity was the same person who picked his pocket. The pickpocket returns the purse to him. And the story ends there.

In this story, Basheer brings light into the inner fathoms of human mind which are very complex and intricate. The pickpocket leads the protagonist to this scenario. He lives an unworthy life and he has no remorse of what he is doing. But when the circumstance was intense, he feels remorse and wants to fix the problem that he has created. He finds that an innocent man is going to be punished brutally for a mistake that he has committed. The pickpocket could have just walked away but he doesn't and comes forward to do the right thing.

This story perfectly shows that all human beings are inspired by the act of caring for others. The people in the restaurant could be cruel but the person who precipitated all this was stricken by compunction and inspired by care for the person in need. At the beginning of the story the protagonist wonders "WHY DID HE DO SO?" when the stranger refused to reveal his name, he says that his name could be "MERCY". These two statements are very important in this story. The term 'mercy' here stand as an answer to the first question. The pickpocket saved him out of mercy. The pickpocket couldn't leave him there because of the mercy.

1.2.4 Human as species - Jathilakshanam, Jatinirnayam

Human as species in the philosophy of Sree Narayanaguru

Sree Narayanaguru played a great role in inaugurating a philosophy based on humanism in Kerala. He introduced a philosophy centered on equality into a society which was filled with graded inequality and caste discrimination. These ideas where unimaginable in a caste ridden society. Sree Narayanagura established his ideas about caste through his works, Jatilakshanam and Jatinirnayam.

Jatinirnayam

In his work Jatinirnayam he asserts that the 'caste of man is manhood' and caste differentiation like Brahmin, Kshatriya, Vysya and Sudra are not tenable. Sree Narayanaguru says that cowhood is the caste of the cows just like manhood is the only caste/genus of the man.

In the second sloka of this work, there appears the most famous and seminal idea of Narayanaguru.

"Of one kind, one faith, one God, is man: Of one womb, of one form

Difference herein is none."

All human beings belong to a single caste which is manhood. He adds that all human beings are born in similar manner. The anatomy of all human beings is similar. There is no difference between two beings in these respects. A child is born by means of intercourse between the male and female of the same species. Brahmin and Sudra belong to manhood; there is no place for any vanity of superiority.

There are six slokas in Jatinirnayam.

Excerpts from

JATINIRNAYAM

(A Critique of Jati) Translated by Muni Narayana Prasad

[Written in 1914, The first verse is in Sanskrit and the remaining five are in Malayalam. The metre is Anustup]

1

Humanity marks out,

Of what species humans are.

Even as bovinity Does with cows.

Brahminhood and such Do not do so in this case

No one does realise, alas! This apparent truth.

2

Of on kind, one faith, one God is man; Of one womb, of one form

Difference herein is none.

3

Within a species, does it not,

Offspring truly breed?

The human species, thus seen, To a single species belongs.

Jatilakshanam

Jatilakshanam is an extended description of the idea brought forth in Jatinirnayam. In the first sloka, Guru says that all living beings which are capable to bring forth progenies by means of sexual intercourse belong to the same species. Two beings which cannot reproduce like this belong to different species. We also find the beings of the same species in a class or group joining together. Each species is assigned their own physique, sound, smell, etc. The temperature and smell of these beings are common to that species. Their appearance would also be similar. We can recognise a species by means of all these characteristics. Applying this method we can come to the conclusion that all human beings, irrespective of their place and race, fall under a single category. In this way Sree Narayanaguru introduces a universal humanism on the basis of one species-theory.

He says that it is irrelevant to ask the caste of another man because her body itself is a perfect proof of the caste to which she belongs. So the ascertainment of name, place and occupation are the only matters that we are supposed to take consideration when we meet a stranger.

In the fifth sloka of the Jatilakshana Sree Narayanaguru emphasises this idea unequivocally. As the body of a living being is enough to tell the type to which she belongs to, a reasonable and perceptible person will not resort to ascertaining her caste.

He scorns that some people believe it is an inferior thing to admit that they belong to mankind. They believe it is superior to state that they belong to Brahminhood or Kshathriyahood. Narayanaguru says that admitting the fact that we belong to mankind is not an inferior thing. All people are expected to acclaim the manhood.

Excerpts from

JATILAKSHANAM

(Jati Defined)

1

All that mate together and beget offspring belong to one species; Those that do not mate Together are not so.

Those of the same species

Are often seen in pairs as well.

2

Each species does have

Its own bodily form,

Its own way of sound-making,

Its own smell and taste,

Its own bodily temperature, Please remember that.

3

Following all these,

There exists in each

Their own distinguishing features, therefore it is that

We know various things One different from another.

4

Ask for the name,

Place and calling

(Of someone you meet)

Do not ever ask

"Who you are (by caste)?" Because the body itself tells you of that truth.

1.2.5 Environmental concerns: Gandhi, Thoreau, Deep Ecology

Environmental concern and Humanism in M.K. Gandhi

Gandhi's views on human existence are holistic. It is holistic in the sense that he sees human as a being that is both embedded in nature and transcendental in spirit and connected to everyone and everything on earth and related to the divine morally. Hence whatever one speaks about humans simultaneously turns to be the talk about all other beings in the nature also. This concept of interconnection is important in understanding Gandhi's vision of humanism. It means that, according to Gandhi, to speak about human being, one has to view human not only as a part of nature but also the guardian and trustee of the earth as a divine mission.

Environmental concern in Gandhi in connection with his vision of humanism can be summarised in his famous aphorism: "The world has enough for everybody's need, but not enough for one person's greed". Ramachandra Guha, famous Indian Historian, calls this exquisite phrase 'one-line environmental ethic'. To Gandhi, the concept of human person is closely knitted with the ideas of environmental concerns and responsibilities for others. Human beings become human persons only by their concern for others and care for environment. Gandhi writes: "I suggest that we are thieves in a way. If I take anything that I do not need for my own immediate use and keep it, I thieve it from somebody else. I venture to suggest that it is the fundamental law of nature, without exception, that nature produces enough for our wants from day today, and if only everybody took enough for himself and nothing more, there would be no pauperism in this world, there would be no more dying of starvation in this world. But so long as we have got this inequality, so long we are thieving." (*Trusteeship,* p.3).

Gandhian philosophy of humanism and environmental concerns are expressed clearly in his views on the concepts of Satyagraha, Ahimsa, Grama- swaraj (Village republic), Trusteeship , Sarvodaya (upliftment, betterment and strengthening of everyone) and the notion of Bread-labour. By holding firmly the truth or Satya (satyagraha) one can be morally strong to practice non-violence. It is an alternative

code for human life. It is a voluntary life of simplicity. According to Gandhi, poverty of people is the result of violence by greedy. He states that we become true human beings only when we revitalise rural economy and by realising ourselves as the trustees of nature, resources and wealth of others and thereby working for the betterment of them. His vision about farming and agriculture, small scale village industry, recycling of waste and resources, organic maneuver and the deeper sense of protection of nature contributes to the contemporary understanding of the concept of sustainable development. The word sustainability tries to ensure the betterment of environment for the present and future generations of human beings and for nature holistically.

Gandhian views of environment and humanism may be summarised and expressed in the following three principles:

1.Adopt a simple and plain living which helps in reducing her desire and helps in being self- reliant. It helps for decreasing consumer appetite and thereby protecting nature and resources for everyone.

2.Encourage small scale locally oriented production, using local resources and meeting local needs so that employment opportunities are made available everywhere, promoting the ideal of sarvodaya.

3.Adopt and practise trusteeship principle, which aims to make a decent living and accumulate wealth with the concern for others, especially the poor.

Environmental Concerns in Henry David Thoreau (1817-1862)

Henry David Thoreau's impact on modern political thinking and environmentalism is beyond question. Critical opinions about this American philosopher have been varied in his own times. While some considered him "meddlesome trouble maker", others like R.L. Stevenson thought of him as a "sulker, dodging the responsibility of living". Ralph Waldo Emerson gives him the best tribute of being "the man of Concord", always in love with nature.

Mahatma Gandhi, the Father of Indian Nation, borrowed even the title and concept of "Civil Disobedience" from Thoreau. Strangely, Martin Luther King Jr, imbibed the concepts of ahimsa and civil disobedience from Gandhi. There is no doubt that Thoreau has been highly influential in the great intellectual interaction between America and India.

Thoreau lived a simple and quiet life in communion with nature. His life in the woods by Walden Pond for nearly two years and two months is popularly called the Walden Experiment. His mission was to understand what nature had to teach to humanity. This had resulted in the publication of his literary masterpiece *Walden or Life in the Woods*. Undoubtedly, Thoreau is both a naturalist and a romantic.

Thoreau made brief journeys and wrote about them. Much of his writings are on nature. His fourteen volumes of journals reveal his observations of nature. Some of his writings were published posthumously. The volumes include *Excursions* (1863), *The Maine Woods* (1864), and *A Yankee in Canada*(1866). The works carry rustic charm, reveal poetic descriptions of nature, and abound in tender lyricism.

Thoreau was fond of natural world. He identified himself as a natural philosopher. He believes that the living earth has a life of its own. It is above the biotic existence of animals and plants. The environment is rich with values. We can enrich our lives by recognising nature's value. It would be suicidal to invest nature with our own

purposes or value-systems.

Unfortunately, human beings have distorted perceptions of nature. We consider ourselves as the center of the universe, and the roof and crown of creation. This anthropocentricism relegates nature to the margin. Exploitation of nature has resulted in untold miseries to all creatures on the earth. We can make a better world by restraining our consumption.

We live in a pluralistic universe with diverse and heterogeneous voices. One man's food is another man's poison. What may appear as bad for us may have positive aspects. Squirrels are not merely rodents; they play a vital role in the distribution of seeds. All the things in nature are harmoniously interrelated. They are interdependent and interlinked. To study nature is to study humanity.

Thoreau underscores that there is a spark of divinity in human beings. The primitive vigour of nature in us, if explored wisely, can make us infinitely potential. It is for the individual to ensure her/his infinitude. The materialistic concerns rob us off the inner power. There are close parallels between the ripening of a seed and the development of the human potential. Both the seed and the human contain universe in them. Careful and delicate nurturing and caring are needed for both.

Human being is an inhabitant, and a part and parcel of nature. It is a great irony that we are regarded as loafers if we are to spend time in the company of nature; and enterprising citizens if we destroy nature for making money. Human-Nature relationship is never consistent. Nature needs not be always benevolent to us. Sometimes, it turns violent and indifferent to us. Sometimes we see nature as a home and friend while at other times it becomes a threat and foe.

Thoreau believes that the representation of nature is great because nature itself is great. He provides us with a natural and empirical description of birds, trees, fish, woods etc. He never believes that increased wealth and economic consumption guarantee happiness. Artificial alternatives are inferior to pristine nature. Nature provides a wide variety of resources for us. Every creature in nature has a symbolic value. Nature's economy is extravagant.

Human beings should learn to find solace and comfort in the company of nature. We can make a heaven or hell out of nature. We should learn to take only what we need. We alone can appreciate the varied diversity of non-human life. Walden shows the benefits of recognising the importance of the values of nature. A close experience with nature can facilitate clear thinking. Thoreau reiterates the necessity for a personal and fulfilling relationship with nature.

Deep Ecology

Norwegian philosopher Arne Naess is considered as the founder of Deep Ecology. He coined the term "deep ecology" in 1973. "Deep Ecology" is deep because it questions fundamental assumptions in our philosophies and world view. It attempts to deduce principles of action from basic values and premises. Arne Naess provides his personal philosophical view which he calls Ecosophy. He says, "By an ecosophy I mean a philosophy of ecological harmony or equilibrium". The following could be considered as examples of such deep questioning:

- What is an individual?
- What things have intrinsic value and moral standing?
- How should we understand nature?

- What is the relationship between

people and nature?

Human beings are part of nature and not separate from it. According to deep ecologists, the notion of "individual" is vague. A person is no more of an individual than a cell, a species or an ecosystem. Individuals are formed and defined by their relationships with other entities. Relationships and processes are more real and lasting than individuals.

Deep Ecology focuses on two ultimate norms: self-realization and bio-centric equality.

a) Self-realisation

It is a process through which people come to understand themselves as existing in a thorough interconnectedness with the rest of nature. The ultimate good is self-realization. It is not egotistical focus on the individual but understanding the self as a large all-inclusive self including all lives, human, animal and vegetable. All of nature strives to realise its self, and to live in harmony with its parts. The flourishing of all of nature should be the goal,

b) Bio-centric equality

A sense of bio-centric equality is the recognition that all organisms and beings are equally members of an interrelated whole and therefore have equal intrinsic worth. According to the principle of bio-centric equality, all the species have intrinsic values independent of the instrumental values they hold for the human beings.

The following are the platform principles for the Deep Ecology social movement formulated by Arne Naess and George Sessions :

1. The well-being and flourishing of human and non-human life on earth have value in themselves. These values are independent of the usefulness of the non-human world for human purposes.

2. Richness and diversity contribute to the realisation of these values and are also values in themselves.

3. Humans have no right to reduce this richness and diversity except to satisfy vital needs.

4. Present human interference with the non-human world is excessive, and the situation is rapidly worsening.

5. The flourishing of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of non-human life requires such a decrease.

6. Policies must therefore be changed to suit basic economic, technological, and ideological structures.

7. The ideological change is mainly that of appreciating life quality rather than adhering to an increasingly higher standard of living.

8. Those who subscribe to the foregoing points have an obligation directly or indirectly to participate in the attempt to implement the necessary changes.

Deep Ecology and Shallow Ecology

The Shallow Ecology movement strives for mild reforms and gives priority to anthropocentric values. Nature is seen as having only instrumental value. Problems such as pollution and the need to preserve

quality of environment are taken into account only so far as it adds to human wellbeing.

The deep ecology movement recognises that ecological balance will require profound changes in our perception of the role of human beings in the ecosystem. Shallow Ecology is concerned only with more efficient control and management of the natural environment, for the benefit of man. For example, in the case of pollution, the shallow ecological approach is that technology seeks to purify the air and water and to distribute pollution more evenly. Laws limit permissible pollution and so polluting industries are preferably exported to developing countries. But Deep Ecological approach is that pollution must be eliminated from a bio-spheric point of view. Its focus is not on its effects on human health alone, but on life as a whole, including all species and the ecosystem. Deep Ecology gives priority to fight the deep causes of pollution and not merely focus on superficial short-term solutions.

Recap

- Nonviolence is a critical factor for social association
- All people are expected to acclaim the manhood
- Mahatma Gandhi related humanism with environment aspects
- Man is part of nature but at the same time guardian and trustee of the earth
- The world has enough for everyone's need but not enough for one person's greed
- Gandhian philiosophy manifested in Sathyagraha, Ahimsa, Gramaswaraj, Trusteeship , sarvodhaya etc.
- Gandhi- poverty of people is the result of violence by greedy
- Gandhian Views on Humanism- 3 principles- adopt a single life- encourage small scale production- adopt trustee ship and practice
- Henry David Thoreau - believed - earth has a life of its own
- All things in nature are harmoniously interrelated
- We can make heaven or hell out of nature

- Learn to take only what we need
- Self realisation- the ultimate good
- Bio-centric equality recognises equality amongst all bio centric grouping
- Deep ecology social movement - well-being of human and non-human life on earth
- Richness and diversity
- Flourishing of human life is competable with a decrease of human population - flourishing of non-human life requires such decrease
- Shallow ecology focuses on human well being
- Deep ecology is bio-centric and anti-anthropocentric

Objective Questions

1. Why does human social groups practice nonviolence?
2. Who were thrithankara?
3. How many thrithankara were there for the Jain religion ?
4. Who was the first thrithankara?
5. Who was the last thrithankara?
6. Why do the Jains cover their own nose with a net like cloth?
7. Why do the Jains avoid dinner after lighting the lamp in the house?
8. Which are the major religions that advocated nonviolence ?
9. What is equality means?
10. Does equality implies sameness?

11. Distributing justice denotes distribution of resources equally. Who wrote a theory of justice?

12. What is the major focus in the theory of justice of John Rawl?

13. What was the major emphasis of Amartya Sen on equality?

14. What was the focus of Ranciere on equality?

15. Who is the author of "Oru Manushyan"?

16. Who wrote "Jaathi Nirnayam"?

17. Where does Jathi lakashnam figure?

18. Who proposed 'one-line environmental ethic' for Gandhian concept of humanism?

19. Who opined poverty of people is the result of violence by greedy?

20. What did Thoreau reiterate ?

21. Who coined the term deep ecology?

22. What is Ecosophy?

23. What are the projections of deep ecology?

24. What is shallow ecology movement?

Answers

1. Nonviolence is critical factor for the integration of society
2. The teachers in the Jain tradition
3. 24
4. Rishabhdeva

5. Vardhamana Mahavira

6. to avoid small creatures accidently being inhaled through nose.

7. to save small flies that may fall into food due to the light of lamp

8. Buddhism, Jainism, Hinduism, Christianity and Islam

9. Equality equivalence in relationship

10. No

11. John Rawl

12. It ignores social, economic and physical differentiation among people

13. Equal chance for autonomy and empowerment.

14. Everyone is equal of everyone else

15. Vaikom Muhammed Basheer

16. Sreenaryanaguru

17. Jaathi Niranayam

18. Rama Chandra Guha

19. Mahatma Gandhi

20. The necessity for perusal and fulfilling relationship with nature

21. Arne-Naess

22. Philosophy of Ecological harmony or equilibrium

23. Self Realisation and bio centric equality.

24. it tries for mild reforms and gives priorities of Anthropocentric values

Assignments

1. Discuss the practice of non-violence in Jainism.
2. Explain Gandhi's views on environment and humanism.
3. Differentiate between Deep Ecology and Shallow Ecology movements.
4. Discuss the major principles of Deep Ecology.
5. Write a note on the role of 'anukampa' or compassion in Narayanaguru's philosophy.

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Introduction to Logic

UNIT

Introduction: A Very Brief History of Logic

Learning Outcomes

After reading this unit, the learner will be able to:

- get relevance of studying logic, the science of thought and valid reasoning
- make correct and valid reasoning in the life
- get an introduction to traditional and symbolic logic and to deductive, inductive and abductive reasonings
- know the difference between propositions and arguments
- differentiate between the truth and falsity of propositions and the validity and invalidity of arguments

Prerequisites

We think and speak about various things. But, do we think clearly and correctly? Not always. Not even most often. There are times in which we reach certain conclusion abruptly and falsely. That happens because we do not use the correct ways of reasoning. Only clear and step-by-step thinking process and correct ways of reasoning will lead us to making a point lucidly. And only clear and correct thinking will lead us to speaking clearly and communicating effectively. Clear thinking is also a necessary condition for a sound decision making. Logic helps us place propositions in a proper order and structure of argument. By thinking unclearly and imprecisely and putting propositions in an unstructured sense, we may end up in logical fallacies. For example, have you thought about the statement "half-empty glass is half full"? Is not it true? Yes! But what will happen if you reach from that premise to the conclusion that

"full-empty glass is full."? That won't make sense at all. Thus, studying about the principles of right reasoning and structuring argument is necessary for us to avoid fallacies in our day-to-day life. The importance given to logic in Indian tradition is clear in the Nyaya school, one of the six systems (darshans) of Indian philosophy. Nyaya school (Sanskrit: 'rule' or 'method') is famous for its stress on the analysis of logic and epistemology.

Key Themes

Science of thought, traditional logic, symbolic logic, propositions, argument, clarity and precision.

The Greek philosophers of the sixth century BCE enquired whether there was one stuff of which the world is made. Thinkers like Thales, Parmenides, Heraclitus, Democritus and others theorised about the fundamental principle of everything. Even though they made philosophical investigation into the universe, they also drew on supernatural forces, the gods, ancient myths, etc. while doing so. As philosophy gradually matured, there were attempts to keep rational principles the centre of investigation instead of myths. Logic came into existence through such explorations. After the emergence of logic, judgments were sought which could be tested and confirmed. The logic insisted that thinkers must reason about things. In order to do that, one should find out the principles of right reasoning.

Establishing a well-structured system of logic was not at all easy. Aristotle formulated such a precise system. He is known as the first great logician. Aristotle approached reasoning as an activity in which we first identify classes of things. We then recognise the relations among these classes. According to him, the fundamental elements of reasoning are the categories into which we can put things. Therefore, he distinguished types of categorical propositions. By combining categorical propositions involving three terms in various ways, we can reason by constructing categorical syllogisms. Using such strategies, Aristotle built a system of deductive logic (as will be shown in 1.2). Deductive logic had begun with Aristotle's work, *The Organon*.

A century after Aristotle, another Greek philosopher, Chrysippus carried logical analysis to a higher level. He took propositions instead of categories as the fundamental elements of reasoning. He tried to find out the logical relations among propositions. With the decline of the Roman Empire, the work of the Greek logicians was preserved by Muslim scholars, most notably Al-Farabi (c. 872–c. 950). He wrote a commentary on the works of Aristotle. He was followed by the great Muslim philosopher Ibn Sina, known as Avicenna. Their scholarship refreshed Western thought. Thereafter Peter Abelard (1079– 1142) in France and William of Ockham (1287–1348) in England further developed logical thinking

Ockham identified certain theorems. Those were formulated more precisely by the mathematical logician, Augustus De Morgan many years later. Those are named as De Morgan's theorems. Ockham sought to get rid of metaphysical concepts. His principle is known as "Ockham's razor". Logic and metaphysics were conceptualized in opposing sides.

Francis Bacon (1561-1626) wrote a new Organon, namely, *Novum Organum* in England in 1620. Bacon tried to find out the procedures used by scientists when investigating natural things. He did not reject the works of classical logicians. His attempt was to supplement those works by formulating the methods of finding empirical truths. The first textbook of Logic (or the Art of Thinking), was published anonymously in 1662 by a group known as the Port-Royal logicians. Other textbooks followed, including *Logic or The Right Use of Reason In the Inquery After Truth* (1725) by Isaac Watts; then *Logic* (1826) by Richard Whately and *A System of Logic* (1843) by John Stuart Mill. Mill's methods are central in the study of inductive logic.

2.1.1 Traditional and Symbolic Logic

Logic is defined as the science of valid reasoning. In other words, logic is the study of the principles used in distinguishing correct argument from incorrect argument. It plays a fundamental role in such disciplines as philosophy, mathematics, and computer science. Like philosophy and mathematics, logic too has ancient roots. The earliest treatises on the nature of correct reasoning were written over 2000 years ago by the great Greek philosopher and the father of traditional logic, Aristotle (384–322 BCE). For many centuries, the study of logic was mostly concentrated on different interpretations of the works of Aristotle.

Logic is concerned with arguments. An argument or a piece of reasoning is a relational arrangement of premises and conclusion. Hence, the validity and correctness of an argument is ensured when the premises are strong enough to support the conclusion. Arguments formulated in English or any other natural languages are often confusing because of the vague and equivocal nature of the words in which they are expressed. Misleading idioms and emotional expressions make them vague. To avoid such difficulties connected with ordinary language, logicians have developed specialised technical symbols to represent logical sentences and arguments. The book *Principia Mathematica* written by A. N. Whitehead and Bertrand Russell was an important landmark in the history of symbolic logic.

Aristotle made use of certain symbols that had been used in traditional logic. The great German philosopher and mathematician Gottfried Leibniz (1646–1716) was among the first to realise the need to formalise logical argument forms. It was Leibniz's dream to create a universal formal language of science that would solve all the philosophical disputes. The first real steps in this direction were taken in the middle of the nineteenth century by the English mathematician George Boole (1815–1864). In 1854, Boole published *An Investigation of the Laws of Thought* in which he developed an algebraic system for discussing logic. Boole's work was advanced further by Augustus De Morgan and Charles Sanders Peirce. Modern logicians have introduced more specialised symbols that make logical analysis easier and more accurate. The differences between old and new logic are

one of degree rather than kind. The special symbols in modern logic enable us to attain more clarity and precision in presenting arguments. To attain clarity, precision and accuracy of statements and meanings through analysis is the fundamental task of the Logic. Symbolic expressions help us to avoid the problems of vagueness and confusion of meaning.

A general theory of deduction will have two objectives 1) to explain the relations between premises and conclusions in deductive arguments. 2) to provide techniques for discriminating between valid and invalid deductions. Two great bodies of logical theory have sought to achieve these ends. The first is called traditional or Aristotelian logic and the second, modern or symbolic logic.

Although these two have similar aims, they proceed in very different ways. Modern logic, unlike traditional logic does not seek to discriminate valid from invalid arguments. Modern logic begins by identifying the fundamental logical connectives on which deductive arguments depend. A general account of such arguments is given by using these connectives. Methods for testing the validity of arguments are also developed based on this.

Modern symbolic logic analyses deduction in a radically different way than the traditional logic. For Aristotle, the relations of classes of things were central. However, in symbolic logic, one looks at the internal structure of propositions and arguments and to the logical links among them.

The main differences between traditional and symbolic logic are summarised below:

i) Traditional logic is concerned more with the relation of the subject and predicate terms of propositions. Symbolic logic is more concerned with propositions as individual units and propositional relations.

ii) Traditional logic is concerned with both form and matter of thought whereas symbolic logic is purely formal in nature. In other words, the symbolic logic is not concerned with the physical matter/ content of the thought.

iii) Traditional logic has only a limited use of symbols, whereas there is an extensive use of special symbols in symbolic logic.

iv) Syllogisms are central in Aristotelian logic. Instead, the internal structure of propositions and arguments is the focus of modern logic. Hence, the set of symbols include not only variable symbols but also the constants that represent logical connections.

v) Traditional logicians use non-mathematical methods to determine the validity of arguments. Modern logicians adopt decision procedures that ensure mathematical precision in analysing arguments. In the modern logic, logical analysis and mathematical precision go hand in hand.

In spite of all the above differences, modern logic is not opposed to traditional logic. It is a much-improved form of traditional logic. We can say that what was implicit in Aristotelian logic has become explicit in modern logic. The aim of all logicians, traditional as well as modern, is to provide methods or devices to differentiate between correct and incorrect reasoning. The difference between classical logic and symbolic logic is only of degree rather than of kind.

2.1.2 What is logic? Definitions

Logic is a method of argumentation and analysis of such arguments. It is an activity which allows us to go from some given premisses to a conclusion. Thus, logic could be defined as the process of going from premises to a conclusion. In doing so, it uses a variety of ideas and terms such as conjunction, disjunction, negation, and so on. Logic is a particular process of reasoning which has some structure and validity. That process is manifested not only in a variety of disciplines but also in our ordinary activities.

The word 'logic' is derived from the Greek word 'logos'. Literal meaning of Logos is thought. Hence, etymologically logic is the science of thought. It is the science that investigates the process of thinking. In spite of the differences in the definitions given by different logicians, all of them agree about its subject matter. It is the relationship between reasoning and truth.

According to James Edwin Creighton, "logic is the science which deals with the operations of the human mind in the search for truth". As per this definition, logic is a science as it is a systematic and organised body of knowledge about human thought. It also states that logic is concerned with the power of the human mind to think/ reason. Here, 'thought' refers not merely to the product of reasoning, but the process as well. Creighton's definition uses the expression 'search for truth' which implies that truth is the aim of logic. Truth may be either formal or material. Formal truth means agreement of thoughts among themselves.

Irving M. Copi and Carl Cohen define logic as "the study of the methods and principles used to distinguish correct from incorrect reasoning". This definition emphasises the specific function of logic. It provides the standards and methods for evaluating the truth and falsity of judgments. Scientific study in any field is based on correct reasoning and hence logic is considered as the basic science of sciences.

These definitions show the scope of logic. Its rules and methods are of significance in any area of study. Logic is not a positive or descriptive science like biology or sociology. It is a normative science. Sciences are of two types: Positive sciences and normative sciences. The main differences between them are the following: a) Positive sciences study 'what is' while normative sciences study 'what ought to be'. Positive sciences are concerned with facts while normative sciences study ideals and values. b) Positive sciences are descriptive, but the latter is prescriptive. Normative sciences prescribe what ought to be the case. There are mainly three normative disciplines i) Logic - the normative study of correct and incorrect reasoning. ii) Ethics - the normative study of right and wrong or good and evil in human conduct. iii) Aesthetics - the normative study of beautiful and not beautiful. Logic is defined as a normative study because it provides the norms of correct thinking.

Deductive and Inductive reasoning

There are two different ways in which a conclusion may be supported by its premises. Based on this difference, there are two great classes of arguments: the deductive and the inductive. This

distinction is fundamental in the study of logic. A deductive argument makes the claim that its conclusion is supported and inferred by its premises conclusively. An inductive argument does not make such a claim. Every argument is either deductive or inductive. The term validity is applicable only to deductive arguments. To say that a deductive argument is valid is to say that it is not possible for its conclusion to be false when its premises are true. A deductive argument is valid when, if its premises are true, its conclusion must be true. Deductive arguments that fail to do so are invalid. Every deductive argument is either valid or invalid. That means to say if a deductive argument is not valid, it must be invalid. If it is not invalid, it must be valid.

For example,

All humans are mortal.

Socrates is a human being.

Therefore, Socrates is mortal.

Induction is the process of drawing conclusion from observed instances that support the inference. For example,

Aristotle is human and mortal.

Bacon is human and mortal.

Descartes is human and mortal.

Therefore, all humans are mortal.

In deduction, the premises form the necessary ground for the conclusion; if the premises are true, the conclusion is necessarily true. In induction, the conclusion is always probable. Hence, an inductive argument is neither true nor false, but only sound or unsound. The central task of deductive logic is to discriminate valid arguments from invalid ones.

The central task of inductive arguments is to establish the facts on which other arguments may be built. In inductive reasoning, empirical investigations are undertaken. The terms validity and invalidity do not apply to inductive arguments. We can say that inductive arguments may be "better" or "worse," "weaker" or "stronger," and so on. As an inductive argument can provide only some degree of probability for its conclusion, the additional information will strengthen or weaken it. Deductive arguments cannot become better or worse. If a deductive argument is valid, no number of additional premises can add to the strength of that argument. For example, if all humans are mortal and Socrates is human, we may conclude that Socrates is mortal. If we come to learn that Socrates is ugly, or that immortality is a burden, none of those findings can affect validity of the argument. If an argument is valid, nothing in the world can make it more valid. This is not true of inductive arguments.

We could summarise the differences between induction and deduction as follows:

a) Starting point: Deduction starts with general principle (all humans) and induction starts with particular facts (Aristotle).

b) Principle: Deduction is based on the principle that what is true of whole is true of parts; whereas induction is based on the principle that what is true of part is true of whole.

c) Nature of conclusion: In a correct deductive inference, if the premises are true, its conclusion is reached with certainty whereas in a good inductive inference even when all of its premises are true, the conclusion is reached with probability.

d) Validation of argument: Deductive arguments are either valid or invalid; whereas inductive arguments are either stronger or weaker.

e) Reliability: The conclusion of a valid deductive argument is not affected by additional premises supplied to the argument. On the other hand, an inductive argument becomes stronger when it is supplied with additional premises in its support.

f) Nature of leap: Inductive arguments are characterised by inductive leap which is the jump taken from premises to conclusion. There is no such leap in deduction.

g) Nature of validity: Deduction is commonly known as formal logic because it is mainly concerned with forms and formal validity. If the conclusion necessarily follows from the premises, then it is said to be formally valid. Induction aims at material truth also and it always enquires whether the idea agrees with actual fact in the world out there. Induction is known as material logic.

Abductive reasoning

Abductive reasoning was formulated by American philosopher Charles Sanders Peirs. Abduction means determining the precondition. It starts with an observation or set of observations and then seeks the simplest conclusion from the observations. For example, "when it rains, the grass gets wet. The grass is wet. Thus, it must have rained." Another example could be; you know that Vijith and Ravi had a fight that ended their friendship. Now someone tells you that she just saw Vijith and Ravi having tea together. The best explanation you can think of is that they got over their fight. You conclude that they are friends again.

In the above example, the conclusions do not follow logically from the premises as in the deductive argument. It does not follow logically that Vijith and Ravi are friends again from the premises that they had a fight which ended their friendship and that they have been seen having tea together. What leads you to the conclusion is the fact that Vijith and Ravi being friends again would, if true, best explain the fact that they have just been seen having tea together.

Both induction and abduction are ampliative (adding to that which is already known). That is, the conclusion goes beyond what is contained in the premises. They are not necessary conclusions. Abduction involves forming a conclusion from the known information.

The words deduction, induction and abduction are based on Latin ducere, meaning "to lead." The prefix 'de' means "from." Thus, deduction is done by drawing on generally accepted facts. The prefix 'in' means "toward". Thus, induction leads you towards a generalization. The prefix 'ab' means "away". In abduction, one takes away the best explanation.

2.1.3 Propositions

Propositions are the building blocks of reasoning. A proposition asserts that something is the case or something is not the case. In other words, every proposition is either true or false.

Propositions are different from grammatical sentences. Ordinary sentences express not only statements of facts but also wishes, feelings, commands, questions etc. For example, 'Come here',

'May God be merciful', 'I wish you good luck', and so on. A question asserts nothing, and therefore it is not a proposition. "Do you know how to play chess?" is indeed a sentence, but that sentence makes no claim about the world. Neither a command such as "Come quickly!" nor an exclamation such as "Oh my gosh!" raises to the level of a proposition. Questions, commands, and exclamations are neither true nor false. When we assert some proposition, we do so by using a sentence in some language. However, the proposition we assert is not identical to that sentence. For example, "Leslie won the election" and "The election was won by Leslie" are plainly two different sentences that make the same assertion. Sentences are always parts of some language, but propositions are not tied to English or to any given language. Although the four sentences such as

It is raining. (English)

മഴ പെയ്യുന്നു. (Malayalam)

Está lloviendo. (Spanish)

Il pleut. (French)

are in different languages, they have a single meaning. All of them assert the same proposition.

Propositions are statements in which some thing is said about something else either affirmatively or negatively. Therefore, a proposition is strictly in the form 'S is P' or 'S is not P'. Another characteristic of a proposition is determined by the quality and quantity of the subject and predicate terms in it. Accordingly, a basic categorical proposition is of four types

Universal affirmative - A proposition - All S is P

Universal negative - E proposition - No S is P

Particular affirmative - I proposition - Some S is P

Particular negative - O proposition - Some S is not P.

2.1.4 Arguments

We construct arguments using propositions which are building blocks. In any argument we affirm one proposition on the basis of some other propositions. This is done by making inference. Inference is a process which clubs a group of propositions. In logic we analyse these groups of propositions.

Such a group of propositions constitutes an argument. Logic is concerned with arguments. In logic, argument refers to any group of propositions of which one is claimed to follow from the others. For every inference there is a corresponding argument. An argument is not merely a collection of propositions. It is a group of propositions with a structure that shows some inference.

The proposition that is affirmed on the basis of the other propositions in an argument is called conclusion. Those other propositions, which are affirmed as providing support for the conclusion, are called the premises. Logicians are concerned only about the form of an argument under consideration. Some arguments are very simple. Other arguments are quite intricate.

Recognising arguments

Before evaluating an argument, we must recognise it. That is, we must be able to distinguish argumentative passages in writing or speech. An understanding of the language is inevitable to do this.

One useful method to identify arguments depends on the appearance of certain common words or phrases. Those indicators serve to signal the appearance of an argument's conclusion or of its premises. A list of conclusion indicators is given below:

therefore	for these reasons
hence	it follows that
so	I conclude that
accordingly	which shows that
in consequence	which means that
consequently	which entails that
proves that	which implies that
as a result	which allows us to infer that
for this reason	which points to the conclusion that
thus	we may infer

Other words or phrases that serve to mark the premises of an argument are called premise indicators. Usually what follows any one of these will be the premise of some argument. A list of premise indicators is given below:

since	as indicated by
because	the reason is that
for	the reason that
as	may be inferred from
follows	may be derived from
as shown by	may be deduced from
in as much as	in view of the fact that

2.1.5 Truth and Validity

A deductive argument is valid when it is successful in connecting the conclusion to its premises. Its validity refers to the relation between its propositions, that is, between the set of propositions that serve as the premises and the proposition that serves as the conclusion of that argument. If the conclusion follows with logical necessity from the premises, the argument is valid. Therefore, validity can never apply to any single proposition. Truth and falsehood are the attributes of individual propositions. A single statement may be true or false. To say that a statement or proposition is valid or invalid makes no sense.

This contrast between validity and truth is important. Truth and falsity are attributes of individual propositions or statements; validity and invalidity are attributes of arguments. Just as the concept of validity cannot apply to single propositions, the concept of truth cannot apply to arguments. Of the propositions in an argument, some (or all) may be true and some (or all) may be false. However, the argument as a whole is neither true nor false. Propositions, which are statements about the world, may be true or false.

Deductive arguments may be valid or invalid.

The relations between true (or false) propositions and valid (or invalid) arguments are very crucial in deductive logic. It is devoted to the examination of those relations. Every argument makes a claim about the relation between its premises and the conclusion. That relation may hold (true) even if the premises turn out to be false. There are many possible combinations of true and false premises and conclusions in both valid and invalid arguments.

Let us consider few examples:

1. Some valid arguments contain only true propositions—true premises and a true conclusion:

All mammals have lungs.

All whales are mammals.

Therefore, all whales have lungs.

2. Some valid arguments contain only false propositions—false premises and a false conclusion:

All four-legged creatures have wings.

All spiders have exactly four legs.

Therefore, all spiders have wings.

This argument is valid because, if its premises were true, its conclusion would have to be true —even though we know that in fact both the premises and the conclusion of this argument are false.

3. Some invalid arguments contain only true premises and have a false conclusion.

If Tata owned all the gold in India, then Tata would be wealthy.

Tata does not own all the gold in India

Therefore, Tata is not wealthy

The premises of this argument are true, but its conclusion is false. Such an argument cannot be valid because it is impossible for the premises of a valid argument to be true and its conclusion to be false.

4. Some valid arguments have false premises and a true conclusion:

All fishes are mammals.

All whales are fishes.

Therefore, all whales are mammals.

The conclusion of this argument is true; moreover, it may be validly inferred from these two premises; but both premises are false.

5. Some invalid arguments also have false premises and a true conclusion:

All mammals have wings.

All whales have wings.

Therefore, all whales are mammals.

6. Some invalid arguments contain all false propositions—false premises and a false conclusion:

All mammals have wings.

All whales have wings.

Therefore, all mammals are whales.

These examples make it clear that there are valid arguments with false conclusions, as well as invalid arguments with true conclusions. Hence it is clear that the truth or falsity of an argument's conclusion (which is a proposition) does

not determine the validity or invalidity of that argument. The fact that an argument is valid does not guarantee the truth of its conclusion.

To test the truth or falsehood of premises is the task of science. The logician is not interested in the truth or falsehood of propositions. They are interested only in the logical forms and relations between them. By logical relations between propositions, we mean those relations that determine the validity or invalidity of the arguments.

Recap

- Aristotle is known as the great logician
- The word 'logic' is derived from the Greek word 'logos' suggesting 'words' or 'language'
- Many works of Greek logicians were preserved by Muslim scholars, mainly by Al-Farabi.
- Logic is the science of valid reasoning; a study of the principles used in distinguishing correct argument from incorrect argument.
- The Organon is Aristotle's famous book in which he introduced the deductive logic
- Logic is concerned with arguments
- An argument or a piece of reasoning is a relational arrangement of premises and conclusion.
- Like mathematics, logic aims at accuracy and precision
- Traditional logic is concerned with both form and matter of thought whereas symbolic logic is purely formal in nature.

Objective Questions

1. What are the two important forms of reasoning /arguments?
2. What is the process of inductive arguments?
3. "All humans are mortal. Socrates is a human being. Therefore, Socrates

is mortal" is an example of inductive argument. True or false?

4. "Roy is human and mortal. Muhammed is human and mortal. Raja is human and mortal. Therefore, all humans are mortal" is an example of inductive reasoning/argument. True or false?

5. Deduction or induction which method of arguments starts with general principle (all humans)?

6. Where does Induction start from?

7. In a correct deductive inference, if the premises are true, the conclusion necessarily follows with certainty. True or false?

8. In an inductive inference even when all of its premises are true, the conclusion is reached with probability. True or false?

9. Why do we consider Deduction as formal logic?

10. What is the aim of Induction?

11. What are the four types of basic categorical propositions?

Answers

1. Deductive and inductive forms or methods
2. Drawing conclusion from observed instances that support the inference
3. False
4. True
5. Deduction
6. Particular facts
7. True
8. True
9. Because deduction is mainly concerned with forms and formal validity

10. Material truth

11. 1) Universal affirmative - A proposition - All S is P

    2) Universal negative - E proposition - No S is P

    3) Particular affirmative - I proposition - Some S is P

    4) Particular negative - O proposition - Some S is not P

Assignments

1. Explain the differences between traditional and symbolic logic.
2. Explain the deductive and inductive reasoning.
3. Distinguish between argument and proposition with examples.

Suggested Readings

1. Copi, M. Irving. Cohen, Carl. Kenneth. McMahon (2104). *Introduction to Logic*, London: Pearson Education.
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UNIT 2

Fundamentals of Traditional and Symbolic Logic

Learning Outcomes

After reading this unit, the learner will be able to:

- get exposed to divisions of proposition based on quality and quantity
- familiarize the standard form of proposition
- get exposed to the square of opposition
- have a general awareness about the logical connectives in symbolic logic

Prerequisites

Logic is an important subject that we use consciously or unconsciously in our day-to-day engagements. We all make use of the logical principles to bring correctness in our thinking. However, a systematic study of the logical principles will help us to sharpen the logical tools that we all possess in our life. In the western tradition, the beginning of logical reasoning can be traced in the work of Aristotle who was one of the towering intellects of the ancient world. After studying for twenty years in Plato's Academy, he became tutor to Alexander the Great; later he founded his own school, the Lyceum. His works were collected after his death and came to be called the Organon. The subject matter of logic was treated in Organon. Aristotelian logic has been the foundation of rational analysis for thousands of years.

Keywords

Categorical, universal, particular, affirmative, negative

In this unit we mainly concentrate on the basics of traditional and symbolic logic, especially on the different kinds of categorical proposition that we use as the foundational stones to construct logical arguments. It also focuses on how relations between the premises are formed in a deductive argument whose premises are claimed to provide conclusive grounds for the truth of its conclusion. Every deductive argument is either valid or invalid. If it is valid, it is impossible for its premises to be true without its conclusion also being true. The theory of deduction aims to explain the relations of premises and conclusion in valid arguments.

2.2.1 Categorical propositions

We have already seen what is proposition and how that is different from other sentences. Now we are going to focus on the categorical proposition and its divisions formulated on the basis of quality and quantity. Traditional logic deals with arguments based on the relations of categories of objects to one another. By a category we mean a collection of all objects having some characteristic in common. Two classes can be related in the following three ways and these three relations may be applied to categories of every sort.

1. All of one class may be included in all of another class. Eg. The class of all dogs is wholly included in the class of all mammals.

2. Some of the members of one class may be included in another class. Eg. The class of all athletes is partially included in the class of all females.

3. Two classes may have no members in common. Eg. The class of all triangles and the class of all circles may be said to exclude one another.

In a deductive argument we present propositions that state the relations between one category and some other category. Those propositions that relate two classes or categories are called categorical proposition. The categories are denoted respectively by the subject term and predicate term in the proposition and states that either all or part of the class signified by the subject term is included or excluded from the class denoted by the predicate term. It is also stated that in a categorical proposition the predicate is either affirmed or denied without any condition of the subject. Consider the following example,

All crows are black (in this example two categories ‘crows’ and ‘black’ are related without any condition and the whole of the subject term is included in the class denoted by the predicate term).

Some roses are not red (in this example two categories ‘roses’ and ‘red’ are related without any condition and the part of the subject term is included in the class denoted by the predicate term).

Kinds of categorical propositions

Categorical propositions are classified based on quality and quantity as follows

Quality

Every standard-form categorical proposition either affirms, or denies, some class relation, as we have seen. If the proposition affirms some class inclusion, whether complete or partial, its quality is affirmative. So the A proposition, "All S is P," and the I proposition, "Some S is P," are both affirmative in quality. Their letter names, A and I, are thought to come from the Latin word, "AffIrmo," meaning "I affirm".

If the proposition denies class inclusion, whether complete or partial, its quality is negative. So the E proposition, "No S is P," and the O proposition, "Some S is not P," are both negative in quality. Their letter names, E and O, are thought to come from the Latin word, "nEgO," meaning "I deny." Every categorical proposition has one quality or the other, affirmative or negative.

Quantity

Every standard-form of categorical proposition has some class as its subject. If the proposition refers to all members of the class designated by its subject term, its quantity is universal. So the A proposition, "All S is P," and the E proposition, "No S is P," are both universal in quantity. If the proposition refers only to some members of the class designated by its subject term, its quantity is particular. So the I proposition, "Some S is P," and the O proposition, "Some S is not P," are both particular in quantity.

The quantity of a standard-form categorical proposition is revealed by the word with which it begins—"all," "no," or "some". "All" and "no" indicate that the proposition is universal, while "some" indicates that the proposition is particular. The word "no" serves also, in the case of the E proposition, to indicate its negative quality.

Every standard-form categorical proposition must be either affirmative or negative, and must be either universal or particular. The four names uniquely describe each one of the four standard forms by indicating its quantity and its quality: universal affirmative (A), particular affirmative (I), universal negative (E), particular negative (O).

Standard Form of categorical propositions

A categorical proposition is in standard form only if they are the substitution instances of the four forms such as All S is P, No S is P, Some S is P and Some S is not P. So there are only four kinds of standard-form of categorical propositions. They are;

1. Universal affirmative - A proposition: Eg: All politicians are liars.
2. Universal negative - E proposition Eg: No politicians are liars.
3. Particular affirmative - I proposition Eg: Some politicians are liars.
4. Particular negative - O proposition Eg: Some politicians are not liars.

In example 1, we assert that the whole

of one category is included in another category. "All politicians are liars" asserts that every member of the class of politicians is a member of the class of liars. Using the letters S and P for the subject and predicate terms, respectively we could say that All S is P. Here the inclusion is complete or universal. All members of S are said to be also members of P. Propositions in this standard form are called universal affirmative propositions. They are also called 'A' propositions.

Similarly the above four types of proposition are called categorical because the predicate terms are unconditionally attributed to the subject terms. If any condition is attached to the relation between subject term and predicate term, the proposition becomes a conditional proposition. Using S and P for subject and predicate terms, these four propositions can be symbolized as SAP, SEP, SIP and SOP.

With the following table we can summarise the classification of categorical proposition based on quality and quantity.

Proposition	Quantity	Quality	Letter
All S is P	Universal	Affirmative	A
No S is P	Universal	Negative	E
Some S is P	Particular	Affirmative	I
Some S is not P	Particular	Negative	O

2.2.2 Distribution

A term is said to be distributed when it refers to all members of the class denoted by the term. A term is undistributed when only a part of the denotation is taken into consideration. Thus distribution indicates whether the term is taken universally or partially.

The rules of distribution:

(a) 'A' proposition distributes only the subject term.

(b) 'E' proposition distributes both the subject and the predicate terms.

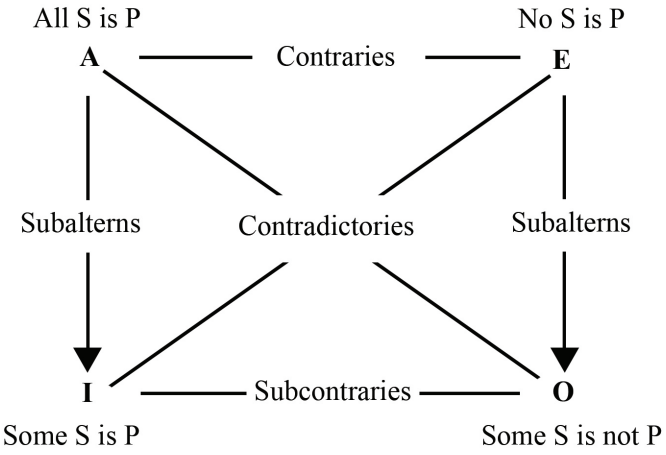
(c) 'I' proposition distributes neither the subject nor the predicate term.

(d) 'O' proposition distributes only its predicate term.

Proposition	Letter	Terms Distributed
All S is P	A	Subject Term
No S is P	E	Both Subject and Predicate terms
Some S is P	I	Neither the subject nor the predicate term
Some S is not P	O	Predicate Term

We can also state the distribution terms in a different way. Affirmative propositions do not distribute their predicate. Particular propositions do not distribute their subject. Negative propositions distribute their predicate. Universal propositions distribute their subject. Which terms are distributed by which standard-form categorical propositions will become very important when we turn to the evaluation of syllogisms.

2.2.3The Traditional Square of Opposition



The relations among A,E,I and O propositions provide ground for the reasoning done in everyday life. The term opposition helps in exhibiting such relations. Opposition used to denote any relation either of inclusion or exclusion that exist between proposition having the same subject term and predicate term. These differences might be in terms of quantity, quality or both.

The various kinds of opposition are correlated as follows:

Contradictories

Two standard-form categorical propositions that have the same subject and predicate terms but differ from each other in both quantity and quality are contradictories. Two propositions are contradictories if one is the denial or negation of the other—that is, if they cannot both be true and cannot both be false. Thus the A proposition, "All judges are lawyers," and the O proposition, "Some judges are not lawyers," are contradictories. They are opposed in both quality (one affirms, the other denies) and quantity (one refers to all, and the other to some). They cannot both be true; they cannot both be false.

Similarly, the E proposition, "No politicians are idealists," and the I proposition, "Some politicians are idealists," are opposed in both quantity and quality, and they too are contradictories.

In summary: A and O propositions are contradictories ("All S is P" is contradicted by "Some S is not P"). E and I propositions are also contradictories ("No S is P" is contradicted by "Some S is P").

Contraries

According to the traditional account of categorical proposition the relation between two universal propositions (A and E) having same subject term and predicate term but differing in quality are considered as contraries. It differs from contradictory relation in the sense that it expresses only partial opposition. That is, in contrary relation the truth of the one entails the falsity of the other but both can be false. If one proposition is given as true then the other proposition will be false and if one proposition is given as false then the other proposition is doubtful (either true or false).

To explain further, if A proposition is true then the E proposition is false and if A proposition is false then the E proposition is doubtful. If E proposition is true then A proposition is false and if E proposition is false then A proposition is doubtful. For example, if 'All novelist are travellers' is true then 'No novelist are travellers' is false and if 'All novelist are travellers' is false then 'No novelist are travellers' is doubtful (either true or false).

Subcontraries

Subcontrary relation states the relation between two particular propositions (I and O) having same subject term and predicate term but differing in quality. Like contrary relation it also expresses only partial opposition. That is, two particular propositions are related in such a way that they cannot both be false, although they both may be true. If one proposition is given as true then the other proposition is doubtful (either true or false) and if one proposition is given as false then the other proposition is true.

If I proposition is true then O proposition is doubtful (either true or false) and if I proposition is false then O proposition is true. In the same way, If O proposition is true then I proposition is doubtful (either true or false) and if O proposition is false then I proposition is true.

Subalternation

Subalternation states the relation between two propositions having same subject term and predicate term differing in quantity (universal and particular). In any such relation between universal and particular proposition, the universal proposition is called as superaltern and the particular proposition is called as subaltern. Their relation can be established based on the following rule:

If universal proposition is true then the particular is also true and if universal proposition is false then particular proposition is doubtful. On the other hand, if particular proposition is true then the universal proposition is doubtful and if particular proposition is false then the universal proposition is necessarily false. Based on this we can state that, If A proposition is true then I proposition is also true and if A proposition is false I proposition is doubtful. If I proposition is true then A proposition is doubtful and if I proposition is false then A proposition is necessarily false. The same is the case with E and O propositions.

2.2.4 Logical connectives

In symbolic logic, we use two types of symbols - variables and constants. A variable is a symbol which can stand for any one of the given range of values. It is simply a letter for which or in place of which a statement may be substituted. Compound statement as well as simple statements may be substituted for statement variables. To avoid confusion we use small letters from the middle part of the alphabets p, q, r, s…as variables.

Modern logicians began to use constant symbols that gave them the advantage of clarity, brevity and accuracy over traditional logic. Common constant symbols used in logic are the following:

Negation	~
Conjunction	·
Disjunction	v
Implication	⊃
Biconditional	≡

All statements can be divided in to two kinds; simple and compound. A simple statement is one that does not contain any other statement as a component part. Eg: Roses are red. On the other hand, a compound statement contain another statement as a component part. Eg: Roses are red and sunflowers are yellow. In this compound statement, the two simple component statements are 'roses are red' and 'sunflowers are yellow'.

The statements could be connected in different ways to form a compound statement. The four important types of connections are conjunction, disjunction, implication and material equivalence.

a) Conjunction

Conjunction is a logical connective that is used to form compound statement by inserting the word 'and' between two statements. For example, 'Raju is tall and handsome'. Two statements thus combined are called conjuncts. 'Raju is tall' and 'Raju is handsome' are the conjuncts of the compound statement 'Raju is tall and handsome'. In symbolic logic the symbol '.' (dot) is used for combining the two statements conjunctively. The symbol dot is called truth functional connective. Using this notation, the earlier compound statement could be written as p.q, where p and q stand for variables.

b) Negation

Negation is a truth functional operator. The negation of a statement is formed by inserting a 'not' into the original statement. One can express the negation of a statement by prefixing to it the phrase 'it is false that' or 'it is not the case that'. e.g. 'It is not the case that today is Monday'. The symbol '~' (curl) or tilde is used to form the negation of a statement. Thus, the statement may be symbolized as ~p.

c) Disjunction

When two statements are combined disjunctively by inserting the word 'or' between them, the resulting compound statement is a disjunction. The two statements so combined are called the disjuncts. The symbol used for disjunction is 'v' (wedge). There are two sense in which the disjunction is used, the exclusive (Strong) and inclusive (weak). The exclusive sense of "or" is "Either A or B (but not both)" as in "You may go to the left or to the right". The inclusive sense of "or" is "Either A or B (or both)". 'John is at the library or John is studying'. Here both the disjuncts may be true because John may be either in the library or he may be studying or he may be in the library and studying.

If 'p' and 'q' are any two statements whatever, their weak or inclusive disjunction is written as pvq.

d) Implication

If two statements are combined by using the phrase 'if…..then' the resulting compound statement is a conditional statement. It is also called a hypothetical or an implicative statement. The compound statement 'If you study well then you will get high marks' is a conditional statement.

The symbol used for implication is '⊃' (horse shoe). The symbolic representation of 'if p then q' is p⊃q.

e) Material equivalence

Two statements are said to be materially

equivalent when they have the same truth value. We symbolize the statement that they are materially equivalent by inserting the symbol '≡' between them. The three-bar symbol '≡' is a truth functional connective. It may be read as "if and only if". It could be symbolised as p ≡ q.

Recap

- A deductive argument is one whose premises are claimed to provide conclusive grounds for the truth of its conclusion
- Category - collection of all objects having some characteristic in common
- If the proposition affirms some class inclusion, whether complete or partial, its quality is affirmative
- If the proposition denies class inclusion, whether complete or partial, its quality is negative
- If the proposition refers to all members of the class designated by its subject term, its quantity is universal
- If the proposition refers only to some members of the class designated by its subject term, its quantity is particular
- The quantity of a standard-form categorical proposition is revealed by the word with which it begins
- Categorical propositions have four kinds of standard-form
- A term is said to be distributed when it refers to all objects denoted by the term
- A term is undistributed when only a part of the denotation is taken into consideration
- Variable is a symbol which can stand for any one of the given range of values

Objective Questions

1. What is meant by category in Logic?

2. What are the four kinds of categorical proposition classified based on quality and quantity?
3. Which are the propositions that have contradictory relation in the traditional square of opposition?
4. What is meant by conjunction in Logic?
5. What is the symbol used for negation?
6. What is the symbol used for disjunction?
7. What are the two senses in which the disjunction is used in Logic?
8. When two statements are combined by using the phrase 'if…..then' what is the resulting compound statement?
9. What is the condition for the two statements to be materially equivalent?

Answers

1. A collection of all objects having some characteristic in common
2. Universal affirmative - A proposition, Universal negative - E proposition, Particular affirmative - I proposition, Particular negative O proposition
3. A and O, E and I.
4. It is a compound statement formed by inserting the word 'and' between two statements
5. '~' (curl)
6. 'v' (wedge)
7. The exclusive (Strong) and inclusive (weak)
8. Conditional or hypothetical or an implicative statement
9. Both must have the same truth value

Assignments

1. Describe categorical proposition and its classification.
2. How does the relation between A, E, I and O propositions are established in traditional square of opposition? Explain.
3. Discuss the truth functional connectives used in logic.

Suggested Readings

1. Irving M. Copi, C. C. (2014). *Introduction to Logic* (14 ed.). Harlow: Pearson Education Limited.
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UNIT

Logic and Language

Learning Outcomes

After reading this unit, the learner will be able to:

- familiarise with the significance of language in logic
- get awareness about how the incorrect use of language leads to fallacies
- distinguish different functions of languages
- identify different definitions of language in order to eliminate ambiguities

Prerequisites

Humans differ from other organisms in the sense that they possess the capacity to think and communicate. How do people communicate their thoughts? They require language in order to convey their thoughts. Language is the outward manifestation of thought. As a result, it became essential that the language must be correct and consistent. The communication of data is not the only purpose of language. It could be subjected to a variety of uses. The validity and invalidity of arguments depend on the form and structure of language. As the form of arguments is dependent on the clear use and structure, logic cannot ignore the language.

Keywords

Informative, expressive, directive, ceremonial, performative, emotively neutral, ambiguity, lexical, precising, theoretical, persuasive

2.3.1 The basic functions of language

Language and thinking are closely related. Learning a language is learning a new way to think. Without words and symbols, we cannot think. Language serves several functions in everyday life including communication. There are numerous uses of language like describing objects, greeting people, letting others know our requirements, expressing our feelings, requesting, giving instructions, singing, cracking jokes, playacting, asking, thinking, praying and so on. Using language is like playing games.

Language is used to perform certain tasks through some kinds of sentences. Grammarians divide the uses of language into classes like informative, expressive, directive, ceremonial, performative and so on.

The following three functions of language need special mention.

i) Informative function

ii) Expressive function

iii) Directive function

2.3.1.1 Informative function

One of the basic functions of language is to inform and describe facts. Consider the following examples:

'Trivandrum is the capital of Kerala"

'Two plus two is four'

'Aristotle is the author of *Organum*'

All these statements are informative. They are stating some facts. The information provided may be correct or incorrect. These statements declare whether facts exist or not. Logicians are concerned only with this kind of statement. They are either true or false. That is, the word information includes misinformation also. Thus, they carry truth values. Logicians are concerned with the clear and precise use of language in affirming or denying statements and constructing arguments. This helps in evaluating statements. Informative language is used to describe the world.

2.3.1.2 Expressive function

Expressive use of language involves expressing emotions and feelings of the speaker. Language is used to express joys and sorrows. Consider the following examples:

'Terrific!'

'fantastic!'

'Oh! What a terrific match'

These statements express feelings. Expressive language can be used to arouse emotions like anger, love, hate etc. Poems are not meant to communicate any information. They are not evaluated as true or false. Emotions are neither true nor false. Applying the standard of truth or falsehood to expressive language will be meaningless. The purpose of poetry is not to teach history. Such expressive use of language is called 'emotive language'. Not all expressive language is poetry. We express sorrow by saying 'That's too bad'.

A worshipper may express her feeling of owe by reciting prayers.

2.3.1.3 Directive function

Language could be used to get some specific work done. Sentences could trigger certain actions. One could command, suggest or request others to do some work through language. Consider the following examples:

'Close the window'

'Come here!'

'Please give me your pen'

These statements are not evaluated as per truth and falsity. When a parent tells a child to wash hands before lunch, the intention is not to communicate any information or to express any emotion. Directive use of language is intended to get results and to cause action. When a person says to the ticket seller at a cinema theatre, 'two, please', language is used directively. Commands and requests are very similar. We could convert every command into a request with a mere change in tone or voice or by adding the word 'please'. A command like 'close the window' cannot be either true or false. A command can be obeyed or disobeyed. It is never true or false.

Language is very fluid and flexible. It could serve mixed or multiple functions simultaneously. For example, 'this building is on fire!' is informative, expressive and directive simultaneously. Thus, these three functions of language are not mutually exclusive. They have overlapping functions. A statement which is informative could also be expressive and a statement which is directive could also be expressive and so on. The logicians are concerned with the informative function only.

Apart from the above three functions, language serves other functions as well. Let us take a look at the ceremonial and performative functions of language.

2.3.1.4 Ceremonial function

Words like 'Hey', 'Hello', 'Good Morning', 'How are you' etc. are used to greet others. These are instances of ceremonial function of language. Ceremonial function has nothing to do with communicating any information. We all know well that 'How are you?' is a friendly greeting, not a request for a medical report. Ceremonial language is a mixture of expressive and directive uses of languages.

2.3.1.5 Performative function

Performative expressions are used to accomplish some social acts. It is somewhat similar to the ceremonial. Take for example, the language-acts performed by priests in marriage functions. These are performative expressions. The utterance of words constitutes the doing of it. When you are assuring your friend 'I will do it, I promise' you are actually making the promise itself, not reporting your intention or predicting your behaviour. When uttered in appropriate situations,

such performative utterances actually perform the act it appears to describe. There are certain performative verbs like 'I congratulate you...', 'I apologise for my...', 'I suggest that...' and so on.

2.3.1.6 Emotively neutral language

As logic is exclusively concerned with what is inferred and on what ground it is inferred, logicians focus on the emotionally neutral language. Deciding the validity and invalidity of arguments are dependent on separating emotively neutral use of language from other uses of it. Emotions are subjective. Emotively charged language is used to persuade others. It blocks effective evaluation of arguments.

There is nothing wrong with using emotive language. Neutral language is valued when the goal is facts. Emotive language is a hindrance when we are trying to reason about facts. While preparing opinion polls, for instance, care should be taken not to prejudice the responses by phrasing questions in an emotively charged manner. Logic appeals to reason instead of playing on emotion. Advertisements play on emotions in order to persuade and to sell.

2.3.2 Definitions: What are definitions?

Due to the ambiguities in language, different kinds of disputes might arise. Sometimes disputes arise when parties disagree in their judgments about facts. Sometimes disputes arise when their attitudes toward facts are in conflict. Third reason for such disputes is verbal disputes. That is, when there is ambiguity regarding key terms. Definitions are helpful in eliminating ambiguities. Disputes could be resolved through them. Let us examine five kinds of definitions.

2.3.2.1 Stipulative definitions

One who introduces a new symbol has the freedom to stipulate what its meaning should be. The definition arising through assigning meaning is called stipulative definition. The term defined so might not be entirely new. New terms are introduced in this manner for several reasons. One major reason is convenience. A single word can stand for many words. Another reason is secrecy. The economy is the third reason. In place of a long sequence of words, one could introduce a new technical symbol. 'Black hole', for example, was a term introduced to replace 'gravitationally completely collapsed star'. Such new terms play a role in the acceptance of new theories. In order for the new terminology to be accepted, the meanings of such terms must be explained by definitions.

A stipulative definition is neither true nor false. It differs from a dictionary definition. A term defined by a stipulative definition did not have that meaning before that meaning was attributted to the term through definition. A stipulative definition is a proposal or resolution to use the term in the way it is defined. It is a request or instruction to do so. In this

sense, a stipulative definition is a directive rather than informative.

2.3.2.2 Lexical definitions

When the term being defined is not new but has an established usage, the definition is lexical. A lexical definition reports an established usage. It does not give a new meaning to the term. The lexical definition may be either true or false. Consider the following definition: "The word 'mountain' means a large mass of rock rising to a considerable height". This is a true definition. That is a true report of how the word is used by English-speaking people. The difference between stipulative and lexical definitions lies in this characteristic. For this reason, lexical definitions are referred to as "real definitions" too. This does not imply that such terms exist in the world. The definition "The word 'unicorn' means an animal like a horse but having a single straight horn projecting from its forehead" is a real or lexical definition, but does not denote any existent thing.

2.3.2.3 Precising definitions

Precising definitions serve to reduce vagueness. Both stipulative and lexical definitions serve to reduce ambiguity. Vagueness is also a hindrance to logical reasoning. Vagueness is not identical to ambiguity. A term is ambiguous when it has more than one meaning and the context does not make it clear which is intended. A term is vague when there exist borderline cases, so it is not clear whether it should be applied or not. The term 'truck' is vague. There are many vehicles to which that term could be applied. Ordinary usage is not enough to bring in clarity here. In the case of borderline cases, ordinary usage must be overcome. Such definitions are called precising definitions.

Precising definition differs from stipulative and lexical definitions. It is different from the stipulative definition because the meaning is not new. One cannot take freedom in assigning meaning while defining precisingly. Established usage should be taken into account. The aim is to make a known term more precise. At the same time, such definitions should go beyond the established usage too.

Legal decisions often involve precising definitions. Judges will not decide matters arbitrarily. They should not propose precising definitions as mere stipulations. In new statutes, quite often definitions of keywords are given in the preface.

2.3.2.4 Theoretical definitions

When there arises dispute among politicians and philosophers about one another's definitions, a coherent understanding of the theoretical background will be required. There was an argument between Socrates and Thrasymachus over the definition of 'justice'. The argument among physicists over the definition of 'heat' continued for generations. They asked questions like 'What is justice?' and 'What is heat?'. A theoretical definition of a term attempts to

form a theoretically adequate description of the objects to which the term applies.

Proposing a theoretical definition amount to asking to accept a new theory. Different theoretical definitions of 'justice' and 'heat' were proposed because different theories of justice and heat were accepted at different times.

When we debate questions like 'is health care a 'right'?' or 'which countries could be called 'democratic' today?', it is not mere verbal matters being discussed. We are seeking theoretical definitions. That is, we are constructing theories.

2.3.2.5 Persuasive definitions

When definitions are formulated in order to influence the attitudes of readers, they are called persuasive definitions. They will try to stir emotions. We find persuasive definitions quite often in political arguments.

Recap

- Arguments are articulated through language
- Incorrect use of language leads to fallacies
- Language and thinking are closely related
- Different functions of languages are informative, expressive, directive, ceremonial and performative
- Informative function of language is to inform and describe facts
- Expressive function of language is to express the emotions and feelings of the speaker
- Directive function of language is to command, suggest and request others to do certain work
- Ceremonial function of language is to greet others
- Ceremonial language is the mixture of expressive and directive uses of language
- Performative function of languages is to accomplish some social acts
- Emotively neutral function of language is free from emotions
- Definitions help to eliminate ambiguities

- Stipulative definitions are the definitions arising through assigning a meaning
- Lexical definition reports an established usage and does not give a new meaning to the term
- Lexical definitions are referred to as 'real definitions'
- Precising definitions make a known term more precise and such definitions go beyond the established usage too
- Theoretical definitions attempt to form a theoretically adequate description of the objects to which the term applies
- Persuasive definitions are formulated in order to influence the attitudes of readers

Objective Questions

1. What is the main problem in logic due to the incorrect use of language?
2. What are the different functions of language?
3. What are the informative functions of language?
4. What are the expressive functions of language?
5. Mention the directive functions of language?
6. What is the ceremonial function of language?
7. What is the performative function of language?
8. What is the nature of emotively neutral language?
9. What is it called when the definition arises through assigning a meaning?
10. What is it called when the definition reports an established usage and does not give a new meaning to the term?
11. What is the other term used to refer to lexical definition?

12. Write down the name of the definition which makes a known term more precise and goes beyond the established usage.

13. Which definitions are formulated in order to influence the attitudes of readers?

14. Which definition attempts to form a theoretically adequate description of the objects to which the term applies?

Answers

1. Leads to fallacies
2. Informative, expressive, directive, ceremonial, and performative
3. Inform and describe facts
4. Express emotions and feelings
5. Command, suggest and request others to do certain work
6. To greet others
7. To accomplish some social acts
8. Free from emotions
9. Stipulative definitions
10. Lexical definition
11. Real definition
12. Precising definition
13. Persuasive definition
14. Theoretical definition

Assignments

1. Why is it required to study the logic as a discipline.
2. Language does various functions in our daily life. Explain.
3. What are the various types of definitions? Explain.

Suggested Readings

1. Gensler, H. J. (2016). *Introduction to Logic* (3 ed.). UK: Routledge.
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UNIT 4

Logic and Science

Learning Outcomes

The unit will enable the learner to:

- get overall idea about the relation between logic and science
- get exposed to scientific method and explanations and the role they play in our daily life
- get a general awareness about the function of logic in science
- understand the role of 'subjective' elements in observation and theory making in science despite its inherent relation with logic
- consider science both as a logical and creative enterprise

Prerequisites

We study certain disciplines in their relation to other disciplines. Comparing and contrasting the foundational principles of various disciplines give us clarity about a discipline and its ways of functioning. The religion, we say, is fundamentally founded on revelation while the science claims it to be fundamentally founded on reason; observation of nature and reasoning about it. In a different sense, we can say, as we have shown in the previous units, that both science and logic are founded on reason/reasoning, but different types of reasoning. That is, logic is founded on deduction or deductive reasoning while the science is founded on induction or inductive reasoning. However, both are not detached from each other. If they are not detached, what type of the relation science maintains with logic? The science starts with particular observations of phenomena. It is

true that logic has no relation with natural phenomena nor is interested in their observations. However, the aim of science is theorization/demonstration. And, there comes the relevance of the logic. In other words, starting with observation, science makes theories which describe how the phenomena happen so and so. And then, scientific laws describe what will happen in a given situation as demonstrable by mathematical equation and logical forms.

Key Themes

Scientific method, deduction, induction, scientific explanation, science as creative

2.4.1. Scientific Method

We prefer to do things 'scientifically.' But what is the scientific way/method of doing things? It is doing a thing carefully and thoroughly. In general sense, the scientific method starts with observation, experimentation, collection of data and analysis of the same. This will be followed by formulation of theory and then laws.

The starting point of scientific activity is observation. We observe patterns of a particular thing/occurrence. Using induction, we arrive at definitions about the essential nature of things. Then, using deduction, we arrive at demonstrations showing why things are what they are. In this way science aims at definition and demonstration.

In the above sense, science resorts to two methods, induction and deduction. Induction is about drawing conclusion with probability from certain patterns of a natural phenomenon and deduction is drawing conclusion with certainty from certain structure of the propositions.

Science always claims a special relationship with logic. Historically, science presented itself as a logical enterprise in contrast to religion. Other activities such as art and literature are considered as not part of the logic. Thus, they are often contrasted with the science. That is to say, in the art and literature, we do not follow the above-mentioned scientific method. In his book *To Explain the World: The Discovery of Modern Science*, the Nobel Prize-winning physicist Steven Weinberg examines collaborations and clashes between science and the competing and opposing spheres of religion, philosophy, technology, poetry and mathematics.

In fact, science is as creative as literature and art. But logic comes into play while justifying these creative discoveries. As we have seen, there are many types of logic. Science appears to be the exemplar of logical analysis because the methodology of science is related to ideas such as objectivity, truth, laws and rationality. Science is explicitly linked to logic through its use of mathematics. The shift to symbolic logic resulted in a form similar to mathematics. This affinity

of science with mathematics is in terms of logical/deductive reasoning. Science also draws upon inductive and abductive reasoning.

Science could be understood as a discipline that constructs theories based on observations. While doing so, it uses certain logical processes. Forming hypotheses and deductively arguing for their consequences are part of theory-making. Logic is also manifested in the relations between theories and observations. Many scientific statements and laws, are implications. For example, "if a piece of litmus is placed in acid, then it will turn pink."

Science extensively uses inductive inferences well. For example, a ball that is thrown up in the air falls down. We see this happening many times and, in many places. We saw this happening day before yesterday, yesterday and today. All of them are particular instances. Then we reach from those particular observations to the general claim that whenever a ball is thrown up, it will fall down.

Another simple example of science using the inductive inference lies in our statement "sun rises in the east." This is a scientifically proven fact. We saw the sun rising in the east in many particular instances in the past. Thus, from those instances, scientists make a general scientific theory "sun rises in the east." We also make inductive inferences when we draw conclusions about all members of a class from some observed members. For example, from tasting one drop of seawater we conclude that all drops of seawater will be salty.

We can distinguish between deduction and induction in this manner: deduction is nonampliative inference and induction is ampliative inference. In ampliative inference the conclusion contains more than what is in the premises.

2.4.2 Scientific Explanation: Models

The central task of science is to give explanations about the natural phenomena and occurrences. By explaining the nature and the world, the faculty of understanding, and investigative techniques of human beings progressed till our age.

Science aims to explain and understand things. It explains a wide variety of phenomena. It tries to explain why the sky is blue and why objects move. It explains the origin of species and why some molecules react in particular ways. It explains the structure of the nucleus of the atom and also the symmetries of the universe.

Giving rational explanations for science always meant ruling out the magics and mysteries human beings attributed to the universe and the natural phenomena. According to the science, there is nothing magical, mysterious and supernatural in the universe. Rather, everything is understandable and explainable.

The German sociologist Max Weber famously popularizes the term 'disenchantment' which means 'de-magic-action'. For him, the modern age of science breaks every magic spell. The advent of scientific methods and explanations by using the enlightened reason made the world more transparent and demystified. In that sense, science is primarily ruling out the theological and supernatural accounts of the world. The scientific enterprise lies in its explanation of everything in

rational terms. The stress on explanation by science made huge impact on human knowledge and development.

There was a time when earth quakes, rise and fall of the tides, floods and natural calamities were presented as mysteries and wonders of the universe. However, science tried to explain them and bring those natural phenomena from the sphere of unknown to the known. Science also tries to reveal the opaque depths of our life. For instance Biology helps to uncover some of the mysteries of the living world. Science, of course, does not (cannot) claim that its explanations have wiped out the mysteries of the universe. In contrast, in one sense, the more science explains the world to us and the more we know about it, the more mysterious it is. But, the scientific business of explanation goes on. "Mysteries must give place to facts".

We offer scientific explanations to phenomena in the natural world as well as to personal relationships. However, it is true that mostly we use 'explanation' in the context of nature/universe and we use 'interpretation' in the context of human and social sphere.

The explanations in our daily life differ in their nature and function. In other words, the scientific explanations have a unique character. We could define explanations in many ways. In order to explain an observed fact, we use various premises and arguments. What is to be explained is called the 'explanandum', and what does explain is called the 'explanans'. In scientific explanations, the relation between these two are unique. In the deductive nomological model, the presence of laws plays a critical role in scientific explanation. The following are different models of explanation in scientific enterprise:

Reason model: When we are asked to explain why something happened, we might search for reasons for that particular happening. This is called reason model. Here explanation is done by giving reasons for the occurrence of the phenomenon. If we fail to find such reason, we would call that occurrence accidental.

Familiarity model: This model argues that good explanations make unfamiliar happenings familiar. Being familiar implies that there are some phenomena that do not call for an explanation. For example, the explanation of various aspects of heat by the kinetic theory of gases is based on a model that sees molecules as behaving like tiny billiard balls.

Deductive-nomological (DN) model: This is a well-known model of explanation. In this model, explanation is reduced to deduction from a set of premises. At least one of these premises will be a natural law. The structure of the DN model can be given in the following manner:

1. The explanation must be a valid deductive argument.
2. The explanans must contain at least one general law
3. The explanans must be empirically testable.
4. The sentences in the explanans must be true.
5. Hempel is the champion of this model.
6. DN model has also been called the covering-law model.

Causal model of explanation: In this model, to explain a phenomenon is equated with giving information about its causal history. Unlike the DN model, there is no necessity to posit a law.

2.4.3. Science as a Creative Enterprise

As we already said, the science is mostly considered as a logical/ mathematical enterprise. And thus, it is often put on the other side of the creative and imaginative enterprises such as art and literature. However, science cannot be reduced to logic. That is to say, science is not purely logical in full detachment from the creative and imaginative aspects of the human minds.

While talking about the creative and imaginative aspects of the science, we need to see the role of aesthetics – the importance of beauty and taste in science. Aesthetics plays a major role in science. Most often, aesthetic considerations influence scientists' reasoning and accepting certain theories. The aesthetic considerations come into play in the context of discovery and justification of scientific theories.

There are even scientists who say that aesthetic tastes and values not only influence their scientific activities such as choosing, testing and justifying (declaring it to be true) certain theories, but also the aesthetic tastes and values guide their activities. That their sense of beauty (which of course varies person to person) motivates to study the natural phenomena. In short, there is a direct or indirect link between 'beauty' and 'truth.' Usually, we consider two of them existing in extreme two sides.

Some writers have pointed out that Darwin's theory of evolution had profound aesthetic influences. Heisenberg believed that physics is like art. He argued that different conceptual systems in physics, namely, Newtonian, thermodynamics, relativity and quantum theory, are actually like different styles of art. In other words, there are scientists who consider the scientific theories, models, equations, axioms and mathematical proofs as pieces of art.

The discussion about the creative and artistic nature of the science can be strengthened with the theory-ladenness of observations. This theory is strongly associated with the late 1950s and early 1960s works of scientists such as Norwood Russell Hanson, Thomas Kuhn, and Paul Feyerabend. Nowadays, it is a significant part of the Philosophy of Science.

The theory-ladenness affirms that all observations and investigations a scientist does are already affected by the theoretical presuppositions they held. According to the theory, there are no pure and objective 'scientific facts' which scientists observe and make theories about. Rather, all observations are chosen by theoretical pre-suppositions of those who are doing scientific practice.

To put it simply and a bit rudely, science is not as objective and logical as we take it to be. The foundation of science lies in observation of the natural phenomena and analysis of the same. However, there is no observation standing alone. The scientist interprets and explains any observation in accordance with his/ her prior understanding of other theories and concepts. X's prior understanding of certain theories varies from Y's understanding of the same, given their different backgrounds. Thus, there is a 'subjective' element of the human beings in the very foundational step of science.

In sum, as we said about aesthetics of science, theoretical presuppositions of the scientist play crucial role in what is to be observed and how to. And, the theoretical

presuppositions vary scientist to scientist in accordance with the living background. All this says about the creative aspects of science.

Recap

- Science aims at definition and demonstration
- Science is explicitly linked to logic through its use of mathematics
- Science goes through logical process while developing theories
- In the reason model, explanation is done by giving reasons for the occurrence of the phenomenon
- Good explanations make unfamiliar happenings familiar
- Explanandum and explanans
- The laws play a critical role in scientific explanation
- Aesthetics - sense of beauty and taste - play a critical role in choosing, testing and justifying scientific theories
- Science is not a purely logical enterprise in complete detachment from the creative, imaginative and artistic aspects of the human mind
- Science is creative and artistic

Objective Questions

1. What is the purpose of using induction in science?
2. How science is explicitly linked to logic?
3. Why induction is considered as ampliative inference?
4. What are the different models of explanation?
5. What is meant by reason model?

6. How a phenomenon is explained in causal model of explanation?
7. What does a good explanation aim at in a familiarity model?
8. What do we mean when we say that aesthetics plays role in science?
9. What is the theory ladenness in the philosophy of science?
10. What does the scientific explanation try to do with mysteries of the universe?

Answers

1. To arrive at definitions about the essential nature of things
2. Through its use of mathematics
3. It contains more than what is in the premises
4. Reason model, familiarity model, DN model and causal model of explanation
5. Explanation is done by giving reasons for the occurrence of the phenomenon
6. By giving information about its causal history
7. Making unfamiliar happenings familiar.
8. Scientists' taste and beauty affect and influence theories.
9. Every scientific observation, inquiries and investigations are affected by theoretical presuppositions/positions a scientist holds prior to the observation.
10. To remove mysteries and demystify the universe.

Assignments

1. Science explaines the natural phenomena. Talk about the role of science in explaining the universe.
2. What is the scientific method ?
3. What are the models of scentific explanation ?
4. Analyse the notion 'Science is a creative enterprise'.

Suggested Readings

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MODEL QUESTION PAPER SETS

HUMANISM AND LOGIC

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QP CODE: …… **Reg. No : .....**

Name : …….....

Third Semester - University Core Course for All UG Programmes

B21UC01SC- Humanism and Logic

(CBCS - UG)

2022-23 - Admission
Onwards

Time: 3 Hours **Max Marks: 70**

SECTION A

Answer any ten of the following. Each question carries one mark
(10X1 = 10 Marks)

1. What is another name for Dharmapada?
2. Who wrote the Anukampadasakam?
3. What does ‘karuna’ mean?
4. What is the English translation of ‘Rahma’?
5. What is Buddha’s eightfold path called?
6. What is Gandhi’s one-line environmental ethic?
7. Who coined ‘Deep Ecology’?
8. What does ‘Ubuntu’ mean?
9. What was the English mathematician who developed an algebraic system for discussing logic?
10. Who wrote the book titled ‘An Investigation of the Laws of Thought’?

11. Name the philosopher who carried logical analysis to a higher level after Aristotle.

12. What is the symbol used for negation in symbolic logic?

13. What is the symbol used for implication in symbolic logic?

14. What is the symbol used for biconditional in symbolic logic?

15. What is the term used when two terms in language have more than one meaning?

SECTION B

Answer any five questions in two or three sentences each. Each question carries two marks.

(5X2 =10 Marks)

16. Why did Nachiketa question his father?

17. What does 'Agape' mean?

18. What is 'Kenosis'?

19. What is the focus of Basheer's 'Oru Manushyan'?

20. What is Gandhi's one-line environmental ethic?

21. How did logic emerge as a separate branch of study?

22. What are the two objectives of a general theory of deduction?

23. What is the difference between truth and validity?

24. What are the two criteria based on which categorical propositions are classified?

25. What does the distribution of terms in a proposition indicate?

SECTION C

Answer any six questions in half a page each. Each question carries 5 marks.

(6X5 = 30 Marks)

26. Explain Gandhi's views on trusteeship.

27. Discuss the importance of 'Shraddha'.

28. Explain Rousseau's concept of emancipation.

29. Discuss Basheer's 'Oru Manushyan' and its message.

30. Explain the concept of Ubuntu.

31. Differentiate between deep and shallow ecology.

32. Explain the difference between traditional logic and symbolic logic.

33. What is an argument in logic? Explain the concepts of premises and conclusions.

34. Distinguish between the concepts of truth and validity.

35. Explain the four standard forms of categorical propositions with examples.

36. What does the distribution of terms indicate in categorical propositions? Explain.

37. Explain the contradictory relations between propositions.

SECTION D

Answer any two questions in three pages each. Each question carries 10 marks.

(2X10 =20 Marks)

38. Explain different concepts of humanism.

39. Analyze Gandhi's views on humanism and the environment.

40. Describe inductive reasoning and deductive reasoning. Explain their differences.

41. Explain the traditional square of opposition.

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SECTION A

Answer any ten of the following. Each question carries one mark
(10X1 = 10 Marks)

1. Who coined the term 'Ubuntu'?
2. What does 'Shraddha' mean?
3. Who wrote the 'Gita'?
4. What does 'anukampa' mean?
5. What is the focus of 'Deep Ecology'?
6. What does 'emancipation' mean?
7. Who wrote the 'Theory of Justice'?
8. What are definitions that reduce vagueness called?
9. What kind of definition attempts to provide an adequate theoretical description of a term's meaning?
10. What is the starting point of scientific activity?

11. What is the central task of science?

12. What term refers to ruling out magical or mysterious explanations in science?

13. What is the name for something requiring a scientific explanation?

14. What is the name for the part of an explanation that does the explaining?

15. What theory says observations depend on scientists' prior theories?

SECTION B

Answer any five questions in two or three sentences each. Each question carries two marks.

(5X2 =10 Marks)

16. What is 'Insaniyya'?

17. Who wrote the 'Anukampadasakam'?

18. What is the difference between deep and shallow ecology?

19. What is 'Ubuntu'?

20. What is the ultimate good in 'Deep Ecology'?

21. What kind of opposition relates two universal propositions?

22. How does the ceremonial function differ from the informative function of language?

23. How do stipulative definitions differ from lexical definitions?

24. How can definitions help resolve disputes?

25. Why does science appear more logical than art or literature?

SECTION C

Answer any six questions in half a page each. Each question carries 5 marks.

(6X5 = 30 Marks)

26. Discuss humanism expressed in Dhammapada.

27. Explain the concept of 'Agape'.

28. Discuss the teachings of 'Anukampadasakam'.

29. Discuss the practice of Ahimsa in traditions.

30. Explain Gandhi's views on the environment.

31. Evaluate the principles of Deep Ecology.

32. Explain the informative function of language.

33. How do lexical definitions differ from stipulative definitions? Explain.

34. What role do definitions play in resolving disputes? Explain.

35. Explain the deductive-nomological model of scientific explanation.

36. How does the causal model explain phenomena? Explain.

37. How is science considered creative? Explain.

SECTION D

Answer any two questions in three pages each. Each question carries 10 marks.

(2X10 =20 Marks)

38. Discuss the importance of 'Shraddha' and 'Karuna'.

39. Compare deep ecology and shallow ecology.

40. Explain the different functions of language.

41. Explain the different models of scientific explanation.

സർവ്വകലാശാലാഗീതം

വിദ്യയാൽ സ്വതന്ത്രരാകണം
വിശ്വപൗരരായി മാറണം
ഗ്രഹപ്രസാദമായ് വിളങ്ങണം
ഗുരുപ്രകാശമേ നയിക്കണേ

കൂരിരുട്ടിൽ നിന്നു ഞങ്ങളെ
സൂര്യവീഥിയിൽ തെളിക്കണം
സ്നേഹദീപ്തിയായ് വിളങ്ങണം
നീതിവൈജയന്തി പാറണം

ശാസ്ത്രവ്യാപ്തിയെന്നുമേകണം
ജാതിഭേദമാകെ മാറണം
ബോധരശ്മിയിൽ തിളങ്ങുവാൻ
ജ്ഞാനകേന്ദ്രമേ ജ്വലിക്കണേ

കുരീപ്പുഴ ശ്രീകുമാർ

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Humanism and Logic

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